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THE PRESENT STATUS OF STOMACH SURGERY.

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At the present time stomach surgery has attained permanent standing in the treatment of a number of well-recognized conditions. The disputed ground must now necessarily lie in the field of diagnosis and technic.

In a general way it may be stated that most diseases of the stomach which cannot be relieved by the means employed by the practitioner of internal medicine, in which hygiene and diet are of the greatest importance, must ultimately be treated surgically.

In most of these cases there is faulty drainage of the stomach. This may be due to a spasmodic contraction of the pylorus, because of the presence of an ulcer or to cicatrization of such an ulcer, resulting in a permanent narrowing of this passage, or to conditions which are secondary to ulcer, such as the development of a pouch-like deformity of the pyloric end of the stomach, or an hour-glass stomach, the most unfortunate secondary effect of pyloric ulcer being the implantation of carcinoma upon its base.

Not infrequently conditions entirely outside of the stomach give rise to conditions which are referred by the patient to the stomach. Gall-stones are the most common cause of such symptoms. The same is true of appendicitis or pressure upon any portion of the alimentary canal due to the presence of a tumor. Again, this condition may be due to the presence of peritoneal adhesions between some portion of the gastro-intestinal tract and any portion of the abdominal wall or any one of the organs contained in the abdomen. Frequently together with the presence of an obstruction of the pylorus or adhesions, and rarely without these, the condition may be due to gastric displacement. In the presence of either one of these conditions surgical treatment should be employed, unless contraindicated by the presence of other conditions which would prohibit any serious operation.

In the diagnosis of surgical diseases of the stomach great difficulty is occasionally found in eliminating cases suffering from gastric disturbances due to general neurasthenia, because the latter condition is frequently the result of gastric disease which can be relieved by surgical means. It is frequently difficult, if not impossible, to make a positive diagnosis in this class of cases. One is naturally always prejudiced against a neurotic patient, and consequently one frequently is tempted to dismiss these cases as suffering from nervous dyspepsia

when the nervous disease is really the result of faulty nutrition, because of the presence of an anatomical lesion of the stomach.

On the other hand, with the increasing popularity of stomach surgery, it is plain that many simple neurotics will undergo stomach operations because they are indeed suffering from nervous dyspepsia. These cases will, of course, be influenced only indirectly by any operation, whether this be upon the stomach or any other organ.

Among the conditions which simulate stomach disease, gall-stones undoubtedly stand first in the point of frequency; and it should be borne in mind that not infrequently the adhesions accompanying the presence of gall-stones result in a distortion of the pylorus, which virtually causes an obstruction.

In these cases there is, however, almost always a considerable amount of pain to the right, around the side and back, in the vicinity of the liver; while in case of gastric ulcer, which is the only other condition in which the pain radiates into the back in a similar manner, the suffering is at least as severe to the left as to the right of the median line.

In gall-stone cases there is further a distinct point of tenderness between the junction of the ninth rib and its cartilage and the umbilicus, while in ulcer of the stomach this point is usually in the median line. There is, of course, very little danger of committing an error in the surgical practice because of an error in diagnosis in cases suffering from gall-stones which are supposed to be suffering from ulcer of the stomach or from pyloric insufficiency, because the surgeon of experience will always examine the gall-bladder in every case of operation upon the stomach; but these conditions can usually be differentiated beforehand.

One condition which the surgeon encounters occasionally, referred to him for operations upon the stomach, should always be borne in mind during the examination of these cases. I refer to locomotor ataxia with marked pain in the region of the stomach. This condition is of course easily detected during a careful examination, but it has occasionally been overlooked.

To the chronic cases referred to above should be added acute ulcers of the stomach, which are not permanently relieved by the use of internal treatment and dietary and hygienic measures. In case gastric ulcer recurs notwithstanding these measures, there is usually present an anatomical cause. The drainage of the stomach into the duodenum is usually at fault, either as a result of the healing of the previous ulcer or a pouched condition of the greater curvature of the stomach or a gastroptosis.

All of these conditions can be relieved by making a gastro-enterostomy between the lowest portion of the stomach and the jejunum sufficiently large to permanently drain the organ. This will result primarily in healing the gastric ulcer and secondarily in preventing the implantation of carcinoma at the location of the ulcer.

Gastro-Enterostomy.

Of all the operations employed in stomach surgery, gastro-enterostomy is the most commonly indicated, because it supplies drainage of the organ, and as the want of this drainage is the cause of most of the surgical diseases of the stomach, its accomplishment must necessarily be of the greatest importance.

In gastric ulcer it relieves the raw surface from the irritation caused by the constant presence of stomach contents.

In benign stricture of the pylorus it establishes approximately normal conditions.

In dilatation of the stomach, due to ulceration or stricture of the pylorus, it permits the muscular walls to contract down to normal and disposes of the residual material in the stomach.

In obstruction, due to carcinoma, it re-establishes the communication between the stomach and the intestine and hence permits the patient's nutrition to improve. In case the disease has not advanced beyond the possibility of excision of the carcinoma, the gastro-enterostomy establishes nearly normal conditions between the remnant of the stomach and the small intestine, its opening taking the place of the pylorus.

Regarding the best method of performing a gastro-enterostomy it is still too early to make a definite statement.

In cases of excision of the pylorus it seems as though the Murphy button secured ideal conditions. It furnishes drainage at once, is easily and rapidly applied, is safe, and the opening is quite sufficient in size, and remains permanently of the same size in cases in which the pylorus has been excised, so that the new opening is the only opening. In cases in which the pylorus is not excised the gastro-enterostomy opening made by the button is likely to contract, and in these cases other methods are to be preferred.

It seems as though the operation devised by Mikulicz, performed with needle and thread, or that by Moynehan, or possibly the method devised by McGraw by means of the elastic ligature, might ultimately be generally accepted.

Whichever method may be chosen, the success of the operation will depend very largely upon the principle introduced by Mayo, which demands for its application that the opening in the stomach must be made at the very lowest point in this organ in order to make the drainage perfect. The application of this principle will make persistent vomiting after gastro-enterostomy, "Viscious Circle," impossible.

I have performed gastro-enterostomy in seventy-one cases. Of these, four were done with the needle and thread, thirty-four with the Murphy button and thirty-three with the McGraw ligature. All but those performed with the McGraw ligature have been previously reported, and the latter will be reported separately at some future time.

The McGraw elastic ligature operation has been exceedingly satisfactory in my hands. Its chief merits being: (1) Its very easy application. (2) The fact that neither the intestine nor the stomach are opened. (3) The fact that the anastomotic opening can be made sufficiently long to prevent future obstruction due to contraction. It is, however, too early to make a definite statement regarding the real value of this method.

In applying the method the following conditions must be borne in mind: (1) A round rubber cord 2 mm. in diameter, made of the best material, should be used. (2) A posterior row of Lembert sutures is applied. (3) A long, straight needle armed with the rubber ligature is passed into the lumen of the intestine and out again at the desired distance, from 5 to 10 c. m. away from the point of introduction. (4) While an assistant holds the intestine the surgeon stretches the rubber in the needle, and when quite thin draws it rapidly through the intestine. (5) The same step is repeated through the stomach. (6) A strong silk ligature is placed across and underneath the rubber ligature between

the latter and the point where the stomach and intestine come together. (7) A single tie is made in the rubber ligature after the latter has been drawn very tightly. (8) The silk ligature is passed around the ends of the rubber ligature where they cross and tied securely three times. (9) The ends of the latter are released and cut off, being held by the silk ligature. (10) The Lembert suture is continued around in front until the point of its beginning is reached, where it will be tied. (11) Care must be exercised to prevent tying the rubber too far backward, and thus getting behind the posterior row of Lembert sutures.

I am thus explicit in describing the steps of this operation because I find that only those who are thoroughly familiar with the method have used it, and apparently all with great satisfaction.

The other methods of gastro-enterostomy have been described so frequently that it will not be necessary to repeat their description.

Pyloroplasty.

This operation is still under observation. Mikulicz, Finney and a few other surgeons speak well of this operation in selected cases of cicatricial constriction of the pylorus. My own experience has not been satisfactory with this operation. The method introduced by Finney is undoubtedly the best. It should be employed only in cases in which there is a sufficient amount of tissue to make the new pyloric opening very large.

Pylorectomy.

The results of pylorectomy will undoubtedly be more and more satisfactory because these patients are likely to come to the surgeon before the carcinoma has advanced to the hopeless condition usually encountered at the present time. The results of Mikulicz, Kocher, Czerny and a few others are even at the present time sufficiently satisfactory to warrant the operation.

This operation should always consist in excision of more than 3 c. m. of the duodenum beyond the malignant growth and the removal of at least two-thirds of the stomach, together with the lymphatics in the lesser omentum, even in cases in which the carcinoma is not advanced. This is important, because the lesser curvature of the stomach is likely to be infected to a great distance from the original growth, even in the early stages of the disease.

The operation should be performed in a systematic way, the blood vessels being caught successively between two pairs of forceps, the pyloric, gastro-duodenal being caught first, then the coronary and left gastro-epiploic. The veins accompanying these arteries are caught at the same time. Then the tissue is cut and carefully ligated. Then forceps are applied in the same manner to the gastro-hepatic omentum, then cut and the same steps carried out in the gastro-colic omentum until the desired point is reached. Care must, of course, be taken not to apply the forceps too close to the transverse colon for fear of causing gangrene by wounding the middle colic artery.

In this manner almost the entire stomach can be removed without causing much more shock than a simple pylorectomy. It is important to remember the distribution of the infected lymph glands in carcinoma of the stomach, which makes it desirable to remove the portion of the stomach indicated in the accompanying diagram, even in cases not far advanced. The end of the duodenum

and the stomach should be closed, and the remnant of the stomach should always be attached to the jejunum, because this intestine is covered throughout with peritoneum, while the duodenum is not, and the attachment can be made without fear of tension.

GASTRECTOMY can be indicated in only a very small number of very unusual cases. It is simply a continuation of the operation for pylorectomy, just described. Here again the jejunum should be chosen for attachment to the esophagus for the reasons just stated.

GASTROSTOMY is indicated in all cases of obstruction of the esophagus due to carcinoma, in which starvation is imminent. The patient receives a great

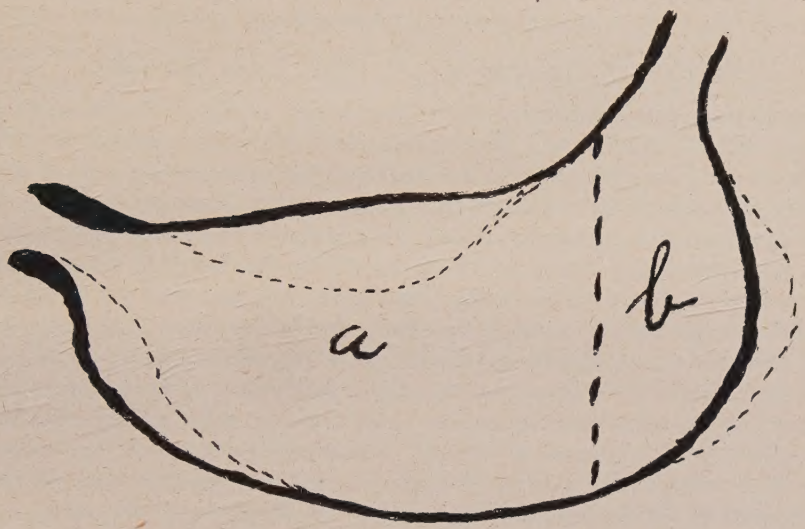

DIAGRAM OF STOMACH.

a—Area likely to be infected in carcinoma of pylorus. *b*—Area likely to remain free.

amount of comfort from this operation. It should be performed by infolding the stomach walls and placing a tube made after the pattern of a Jacob's retention catheter, only larger, permanently in place.

In cases suffering from a benign stricture, which cannot be dilated from above, this operation is indicated for the purpose of making retrograde dilatation.

GASTRODUPLICATION.

It is not likely that this operation will ever again receive any prominence, because the same end can be obtained so much more certainly, safely and easily by making a gastro-enterostomy.

ELEVATING THE STOMACH IN GASTROPTOSIS.

This operation is still being tested. It has not obtained a permanent position, although a few authors, notably Beyea, speak well of it.

My personal observation in this class of cases is not sufficient to warrant a positive opinion, especially as the method I employed was faulty, inasmuch as it interfered with the future motility of the stomach.

My own observations and a study of the literature of this subject has forced upon me the opinion that in cases in which severe pathological conditions of the stomach exist, which cannot be relieved medically in a reasonable period of time and which can neither be traced satisfactorily to a neurosis not secondary to gastric disease, nor the other conditions which have been mentioned, it seems proper to attempt the relief by the use of surgical treatment, and also that this should be done reasonably early in the course of the disease.

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COMPLETE OBSTRUCTION OF FIRST PORTION OF DUODENUM DUE TO GALL STONES—REPORT OF CASE.

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Carefully compiled statistics show that bowel obstruction due to impacted gall stones is not uncommon. It is needless to state that calculi of sufficient size to cause such obstruction have not reached the intestine by way of the biliary ducts. Doubtless calculi large enough to become impacted in the cystic or common duct have, on occasions, found their way by an ulcerative process into adjacent portions of the intestinal tract, especially the first and second portions of the duodenum. Such stones, being usually too small to obstruct the intestine, after gaining entrance into it are, I presume, readily passed on with the intestinal contents and attract no clinical attention. It is very patent, however, that a calculus of great size having formed in the gall bladder can, under certain circumstances, set up an inflammatory action by which the walls of the gall bladder become attached to adjacent structures, ulceration ensues and the imprisoned calculus is thereby liberated from the gall bladder and escapes most frequently into some part of the gastro-intestinal canal—the duodenum and portions of the colon being perforated most often because of their relative fixedness. It is interesting to note in passing that biliary calculi have found their way by ulceration from the gall bladder and ducts into the stomach, pleura, lungs, pelvis of the kidney, ureter and other channels.

When a calculus ulcerates from the gall bladder into the intestine it rarely causes obstruction at the site of the ulceration, strange as it may seem. Observations recorded both in the operating and in the dissecting room emphasize this. The caliber of the small intestine gradually decreases from the beginning of the duodenum to the ileo-cecal junction. Most of the impacted gall stones causing obstruction have been found lodged in the lower portion of the ileum, far removed from the point of entrance into the intestine. This gradual diminution in the size of the canal is probably a causative factor in the lodgment of the stone below the point at which it has gained entrance into the bowel.

In most cases the stone is sufficiently large to fill completely the lumen of the bowel. In some, however, this is not the case and yet obstruction has resulted. Bearing on this and offering, I think, quite a satisfactory explanation of such occurrences are the comments of Dr. Lewis Stephen Pilcher on an obstruction case reported in the *Medical News*, February 28, 1902. The stone, one inch in diameter and three inches in circumference, was lodged in the duodeno-jejunal fossa and caused obstruction at that site. Dr. Pilcher remarks that the cause of the obstruction was apparently not the size of the calculus but "the

weight of the stone was sufficient to prevent the free movements of the loop in which it was held. The mechanical irritation due to its prolonged retention at the most dependent point of this loop produced a circumscribed congestion of the underlying bowel wall, favoring the transmission of infection and a resulting localized peritonitis which glued the loop, sharply bent upon itself, into the duodeno-jejunal fossa and thus added a condition of angulation of the bowel to whatever of obstruction the calculus had previously produced. The combination of the two conditions produced the complete obstruction." The term "decubital irritation" is used in this connection, and not inaptly I think, as descriptive of a potent factor in the production of intestinal obstruction due to gall stones not of sufficient size to occlude the lumen of the bowel.

There are well-authenticated reports of obstruction of the small bowel caused by impacted biliary calculi that have found their way into the bowel by ulceration. The point of obstruction has been, in all instances I have found reported, in the small bowel and the calculi have, with rare exceptions, been single. The statistics of Leichtenstern (Ziemssen's Cyclopedia), published in 1875, show that in 1541 cases of bowel obstruction from all causes, forty-one were due to gall stones. Gibson reports in *Annals of Surgery*, 1900, that in 1000 operations for acute intestinal obstruction compiled from recent records the cause of obstruction in forty was found to be due to a like cause. Of the forty cases, twenty-one proved fatal—the patients' depressed condition at the time of the operation, auto-intoxication, peritonitis, etc., contributing to the fatal issue. Kirmissen and Rochard (*Archiv Generales de Medicine*, February, 1902) collected from all sources one hundred and five cases of bowel obstruction due to gall stones. Of these about two-thirds resulted fatally. Certain of the recoveries followed the passage of the gall stone per rectum. The above statistics show that three per cent. of all cases of bowel obstruction are due to the lodgment of impacted gall stones. Three-fourths of all the cases reported were women and most of them had passed middle life.

The history of the patient, especially bearing on former attacks of acute inflammatory trouble in the right hypochondrium, accompanied or not by jaundice, assists in the diagnosis of bowel obstruction due to the presence of migrating gall stones. The more or less exact location of the obstruction, moreover, is often suggested by certain symptoms accompanying the attack. If the site of the obstruction is well down in the small bowel, the symptoms are the ordinary ones of obstruction due to any cause and the location of the trouble is necessarily vague unless a mass be felt. Suppose, however, that the stone is lodged, as is likely, at the junction of the second and third portions of the duodenum where a decided angle of relative fixedness exists, or at the duodeno-jejunal fossa, as in two cases reported, what special symptoms should we expect? There would probably be persistent vomiting of large quantities of bile and the absence of meteorism and fecal vomiting. If the obstruction be above the point of entrance of the bile duct into the duodenum the vomitus would contain neither bile nor fecal matter, and of course no meteorism would exist.

Apropos of this general subject I submit the following report of a case which, as far as I can learn, is unique. The notes of the case have been gotten from the records of the Polyclinic through the courtesy of Dr. A. E. Taussig and from his report made to the Medical Society of the City Hospital Alumni. The case is one of complete obstruction to the first portion of the duodenum by im-

pacted gall stones. In March, 1900, while temporarily conducting the surgical clinic at the Polyclinic Hospital, the following case was referred to me from the medical department:

Mrs. Edith B., aged thirty-one years, midwife. Has borne two children. Family history good. Although never robust, the patient has had no serious illness until six years ago, when she was awakened one night by a severe, colicky pain in the epigastrim, which lasted several hours. Three years later she had a similar attack, and a third one a year ago. The last attack was followed by jaundice, the first two were not. Four months before coming to the clinic she had an attack somewhat resembling the previous ones, though less severe, accompanied, however, by a peculiar feeling of stomach distension. This recurred at frequent intervals and had entirely incapacitated her for work. She soon began to vomit, usually from a half hour to two hours after eating, and for some time before presenting herself at the clinic had retained practically nothing on the stomach. The vomitus at one time contained blood. She was pale and emaciated and said she had lost thirty-four pounds in four months.

On inspection the stomach could be made out smooth and rounded and filling the epigastrium. An occasional peristaltic wave was discernible, traversing it from left to right. Two hours after an Ewald breakfast the stomach contents were expressed through the tube. There were obtained 160 cc. of bread and water fairly well macerated and digested. No evidences of putrefaction or unusual fermentation. Free hydrochloric, but no lactic acid. On inflation the stomach borders extended laterally to the edge of the epigastric region; inferiorly not quite to the umbilicus. After the expulsion of air the abdomen was flaccid and the edge of the liver could be felt extending one and one-half inches below the costal margin. On a later examination a hard, smooth mass, apparently the size of a walnut, fixed and painful, was fairly well made out in the epigastrium.

Urine normal. Blood count, no leucocytosis.

The patient was kept in bed on a mild diet and regular lavage and for a time did fairly well. Soon, however, her condition became so precarious that she readily assented to an exploratory operation.

Fearing that I had a malignant stenosis of the pylorus to deal with and being prepared for either a gastro-enterostomy or possibly a pylorectomy, I operated before the advanced classes of the Medical Department of Washington University on March 15, 1900, being assisted by Drs. Deutsch, Robinson and others connected with the clinic. After having prepared the stomach by proper irrigation, I opened the abdomen in the median line just below the ensiform, and found an irregular but apparently an inflammatory mass located just below the right lobe of the liver. The adjacent structures were so matted together by adhesions as to be almost unrecognizable. The pylorus proper did not seem to be the site of the greater part of the mass, which apparently involved the first, or ascending, portion of the duodenum. With a view to determine more accurately the location and character of the obstruction, I decided to open the stomach. Drawing this viscus well forward by means of two stay sutures, I made a vertical incision in its anterior wall about two inches from the pylorus, large enough to admit the index finger. The finger introduced into this opening passed readily into the pyloric orifice and encountered a hard, resisting mass

entirely occluding the first portion of the duodenum, some soft tissue, imparting to the touch the feeling of mucous membrane or granulation tissue, covering the mass. On removing this with the finger I immediately came upon a large quantity of faceted gall stones, tightly impacted and ranging in size from that of a split pea to a filbert. Of these, eighteen were readily removed through the stomach wound either with the finger or scoop, and quite a number could be felt escaping into the duodenum as the impaction was broken up. After satisfying myself that the obstruction was fully removed and that the lumen of the intestine at the site of the obstruction was clear, I closed the stomach wound. This was done with a continuous suture of the mucous membrane and a sufficient number of Lembert sutures over this. The abdominal wound was closed in the usual way.

The gall bladder as far as I could make it out was empty and firmly adherent to the mass containing the calculi. The opening into the duodenum was through its upper portion and just beyond the pyloric valve. At this site evidently the inflamed gall bladder had become adherent to the duodenum and ulceration between the two cavities had taken place. Thus liberated, the mass of gall stones gradually encroached upon the lumen of the intestine until complete occlusion took place.

Predigested nutrient enemata sustained the patient until the fifth day, when small quantities of peptonized milk were well tolerated by the stomach. Convalescence was satisfactory and after ten days the patient was nourished entirely by the stomach. In the following June, three months after the operation, she reported to the medical clinic in excellent condition. On August 8, 1901, the patient was sent to me at the Missouri Baptist Sanitarium with an attack of cholecystitis. This was of brief duration and she left the hopital on August 15th in fairly good condition, The records of the Polyclinic show that later the patient suffered several attacks of apparently gall stone colic.

I have made an exhaustive search through all of the publications at my command for reports of cases similar to the above and found none. Many cases are reported of bowel obstruction caused by the lodgment of large single biliary calculi, most of which have, presumably, ulcerated through the gall bladder into the duodenum and passed on to cause obstruction in the jejunum or ileum. Unfortunately, when death ensued post-mortem investigations were rarely made to determine the exact details of the individual cases.

The following well-authenticated cases bear upon the subject: Reported by Schule (*Berliner Klin. Wochen.*, 1894). Woman, aged thirty-five years, suffering with pain in the right hypochondrium, recurring irregularly and not associated with jaundice; stomach distended and displaced downward. Vomiting and collapse. Vomited bile but no feces. A spherical gall stone three and one-half inches in circumference passed per rectum.

Reported by Henry L. Elsner (*Medical News*, February 5, 1898). Woman, aged fifty-seven, acute intestinal obstruction. Passed per rectum biliary calculus three and one-half inches long, five and one-half inches in circumference, weighing 368 grains. Eleven months later passed another calculus two inches in diameter and three inches in circumference, weighing 240 grains. At first pyloric cancer was suspected. From the size of the calculi they probably had ulcerated from the gall bladder into the transverse colon.

Reported by Naunyn (*Medical News*, February 5, 1898). Tumor seven

months in the region of the pylorus. Post-mortem disclosed a large calculus filling the gall bladder and ulceration from the gall bladder into both the duodenum and colon.

Reported by Winston St. John (*British Medical Journal*, November 12, 1898). Man, fifty-four years. Had suffered from intestinal obstruction. Post-mortem disclosed a hard fecal mass, the size of a walnut, containing a gall stone one inch in diameter, obstructing the small intestine six inches from the ileo-cecal valve. The duodenum was firmly fixed to the liver by a dense cicatricial mass. On opening the duodenum it was found to communicate with the gall bladder by an orifice large enough to admit the little finger.

Reported by Mr. Mercer (*British Medical Journal*, December 30, 1893). A woman, aged fifty-two years. Operated upon for bowel obstruction. Biliary calculus one and one-half inches long and three-fourths of an inch in diameter obstructed the small bowel, it being distended above, and empty and contracted below the site of obstruction. Calculus removed through incision. Death the following day.

Reported by Nairn (*British Medical Journal*, May 20, 1893). Woman, aged seventy-five years. Operated upon for bowel obstruction. Biliary calculus three inches in circumference found obstructing the jejunum and removed by incision. Death in ten hours.

Reported by Wilkinson (*British Medical Journal*, February 13, 1897). Woman, aged sixty-three years. Suffered from bowel obstruction. Diagnosis of gall stone made from the history of the case. Treated on expectant plan. Patient in extreme state seven days but no surgical operation performed. Eleven weeks after onset of first symptoms passed from rectum a gall stone the size of a pigeon's egg. Weight in fresh state 341½ grains. Recovery.

Reported by Johathan Hutchinson, Jr. (*British Medical Journal*, December 7, 1895). Woman, aged sixty-nine. History of biliary colic. Later intestinal obstruction of four hours' duration. Biliary calculus weighing only 121 grains removed by operation from the ileum which was obstructed. Death. Mr. Hutchinson observes that this calculus was in diameter about the size of the Murphy button usually used in the small intestine, and states that this part of the intestinal canal scarcely allows the passage of a calculus of a greater diameter than one inch. Hutchinson collected thirty cases of fatal bowel obstruction from biliary calculi.

Reported by J. A. Scott (*Philadelphia Medical News*, December 27, 1902). Woman, aged sixty-seven years. Gangrene of jejunum from gall stone obstruction. One foot of gangrenous bowel excised and calculus weighing 190 grains removed. Death.

Reported by Charles K. Briddon (*Annals of Surgery*, 1897). Obstruction in the lower portion of the ileum by lodgment of gall stone weighing 400 grains. Operation. Death.

Reported by John Walters (*London Lancet*, December, 1881). Woman, aged sixty-nine. Pain and fecal vomiting. Operation on seventh day. Gall stone obstructing lower portion of the small intestine. Death next day. Autopsy: No gall bladder found but at its site the duodenum was firmly attached to the liver and a large opening was seen in the upper wall of that portion of the intestine.

Reported by Jackson A. Atkinson (*British Medical Journal*, March, 1895).

Woman, aged sixty-five. Death from bowel obstruction. A gall stone one and one-half inches long lodged in the duodeno-jejunal flexure. No gall bladder found, but the duodenum was attached to the liver at the normal site of the gall bladder.

Reported by Leonard B. Clark (*Boston Medical and Surgical Journal*, March, 1893). Woman, ninety years. At sixty years had an attack of localized peritonitis in the right hypochondrium and was considered beyond recovery. Pain suddenly ceased coincident with a copious discharge per rectum of bloody pus. Recovery, but always tender in the right hypochondrium. At ninety years, death from bowel obstruction. Autopsy: No gall bladder found but duodenum attached to the liver a quarter of an inch beyond the pylorus, the hepatic ducts draining directly into the duodenum. A mass eighteen inches above the ileocecal valve contained gall stone the size of a pigeon's egg.

Reported by Samuel Wilks to the Pathological Society of London (*British Medical Journal*, December 20, 1884). A woman, aged forty-two years. Bowel obstruction. Enemata brought away gall stone weighing 250 grs. and faceted. Two days later there was passed a second stone weighing 130 grs., faceted to fit the first stone. Stones thought to have ulcerated from the gall bladder into the colon. In the discussion of the case Mr. John Wood reported a tumor operated on in the region of the gall bladder. The mass contained an abscess and two gall stones each the size of a nutmeg. The mass was adherent to the hepatic flexure of the colon. Mr. Wood thought he had intercepted the stones in their passage to the colon. Mr. Treves said that of forty-nine cases of gall stone obstruction to the bowel, forty-eight indicated ulceration between the gall bladder and the duodenum and only one between the gall bladder and the colon. In over 50 per cent. of the cases of bowel obstruction from gall stones the site of the obstruction was in the lower part of the ileum. The next most common site was in the jejunum. The obstruction was not merely mechanical but resulted oftentimes from the contraction of the bowel due to the irritation produced by the presence of the stone. In such cases Mr. Treves suggested that opium as a therapeutic measure might be helpful.

From the foregoing report of my case, and also from the collection of cases typical of bowel obstruction due to gall stones, we may, I think, justly draw the following conclusions:

First—That when bowel obstruction occurs in patients who have had at any time acute inflammatory trouble in the region of the right hypochondrium, erratic gall stones are to be considered as a probable factor in the production of the obstruction. The probability is increased when the patient is a woman and past middle life.

Second—That because of its proximity and fixedness, the duodenum is the most frequent avenue of escape for calculi ulcerating from the gall bladder. The colon is next in order. The jejunum and the ileum, probably because of their greater mobility, are rarely perforated. Calculi entering the duodenum are genally carried further into the small intestine and arrested in their progress by the gradual diminution in the lumen of the bowel.

Third—That gall stones ulcerating into the colon rarely cause obstruction, but are usually passed readily per rectum.

Fourth—That when gall stones smaller than the lumen of the intestine cause

obstruction, it is probably because of the so-called "decubital irritation and angulation" described by Pilcher.

Fifth—That the site of a bowel obstruction can be often approximately located by the study of certain symptoms, such as the presence or absence of meteorism and the presence or absence of bile and feces in the vomitus.

Sixth—That the lower portion of the small intestine is frequently the site of obstruction, caused by the lodgment of migrating single gall stones. The lodgment in the duodenum below the entrance of the bile duct is very rare, and the lodgment between that point and the pylorus must be exceedingly rare, as I can find on record no case other than the one herein reported. The character of the obstructing body is also unique, in that it consisted of a collection of faceted calculi rather than the single large calculus ordinarily causing obstruction.

REMOVAL OF A FIVE-CENT PIECE FROM A STRICTURED ESOPHAGUS.

By A. V. L. Brokaw, M. D., of St. Louis.

The removal of foreign bodies which have lodged in the respiratory or alimentary tract is often accompanied with so much difficulty and anxiety, both to the patient and the surgeon, that I feel sure my experience in the following case will prove both interesting and instructive.

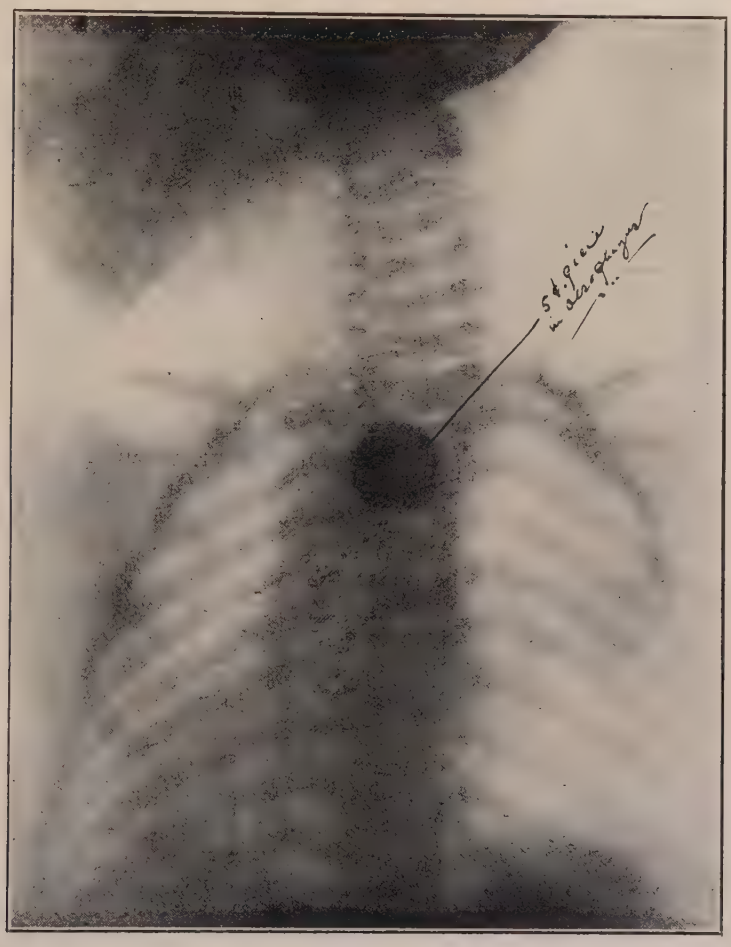
The case demonstrates the great value of the x-ray as an agent for determining the exact location of foreign bodies when lodged in the respiratory tract or esophageal portion of the alimentary tract. Being in possession of this information we are enabled to employ the proper means for extracting the offending body, and can do so without damage to surrounding tissue and with greater facility than when attempting the removal by working blindly or depending upon the sense of touch with the finger or with instruments. This case presents some points of similarity to the one reported by the writer in which an upholsterer's tack was removed from the right bronchus after being located by an x-ray examination.

In the latter part of June, 1902, Raymond Jackson, aged three, swallowed a quantity of "concentrated lye." He received some medical treatment at the time but later developed symptoms of obstruction. As an early symptom the more solid food began to regurgitate and within a few weeks he vomited whatever food was taken, even semi-liquid food. The obstructive symptoms progressively increased in severity, the child gradually grew worse and when seen by me in the latter part of August, he could occasionally only swallow a little milk. The child's general health was rapidly failing from day to day.

Catheterization of the esophagus was commenced at once. At the first attempt a small sized bougie (No. 1) was passed, and on the first day three sizes were used and successfully passed beyond the point of obstruction. At intervals of a few days other sounds were passed and the dilatation of the esophagus was followed by very marked improvement in the general condition of the patient. He could take a quantity of milk, thin soups, etc., and rapidly began to build up.

On October 3, 1902, a bougie was passed and then the little fellow objected to further instrumentation, but on the promise of giving him a nickel he con-

sented to allow me to pass a larger esophageal sound. After leaving the office he placed the five-cent piece in his mouth for safe keeping. Arriving at home he promptly swallowed the nickel and it passed on as far as the stricture in the esophagus would permit and there it became firmly wedged. All domestic efforts to induce expulsion were unsuccessful, the child was inverted, persistently shaken, slapped on the back, etc., but the nickel remained fixed. The patient was brought to my office four or five hours later, a fluoroscopic examination was



made, the nickel clearly located and a radiogram taken at once. (See illustration.) The place of lodgment being clearly outlined and accurately located, an effort was made to remove the foreign body with a coin-catcher. This was not successful, however, and a flexible "Trousseau's" forceps was introduced. In a few moments a firm grasp was obtained upon the coin and instrument and coin were withdrawn, but not without some difficulty owing to the coin being so very firmly fixed, probably as a result of the contraction of the esophageal muscles in the already narrowed canal.

THE HYPODERMIC USE OF MERCURY IN SYPHILIS.

By S. P. Collings, M. D., of Hot Springs, Arkansas.

In the treatment of syphilis in this day and age I believe that no one, who is well informed, doubts the advisability of the use of mercury. It is the only drug we have that can stand as a specific in this disease; and to prove that it is a specific one has only to watch its certain effect, when properly administered, upon the varied lesions of this disease. All other drugs or means that we have at our disposal, in combating its ravages upon the human race, are but adjuvants, and we include in this category the iodine compounds.

The subject of the hypodermatic use of mercury in syphilis has been discussed and written upon so largely in the last twelve to fifteen years, and many of its advocates have been so sanguine of quick results, that a wave of disapproval has necessarily been the result among many syphilographers. This is almost necessarily true of every advance in medicine. The storm of approval comes first, followed by one of disapproval, and, finally, by the establishment of the true value of the medicament or procedure, as the case may be. The hypodermatic use of mercury has necessarily been delayed a long time in reaching what is probably its proper place in the treatment of syphilis, owing to the fact that there are so many preparations of mercury, each with its numerous advocates, and also to the fact that experimentation is often interfered with by the patients not submitting to the pain produced by some of the various methods and preparations used.

This new era in therapy was begun by Charles Hunter and Barclay Hill, in 1856, by Hebra in 1864, Scarenzio in 1865, and largely perfected by Lewin in 1868. However, there was much unfavorable criticism at the time and many succeeding attempts were short-lived, and I may add also that there are still many who hold adverse opinions against the advisability of its use. Much of the unfavorable comment today has been brought about by overzealous advocates of the procedure claiming to perform "quick cures," or shortening the length of time that the disease is usually treated. Should they claim that the patient would be more certainly cured it would probably be more correctly stated. It might as well be said that the rapid disappearance of symptoms by the inunction methods is a "quick cure," yet no such claims are made for that. All things being equal, I can see no reason why that method which brings the quickest relief from symptoms should not be the best one to use. The means that will most certainly prevent the return of those manifestations is still the best one to employ, unless there be good and sufficient grounds why it should not be kept up.

The most serious objection to the universal use of the hypodermatic method has been the pain and soreness following its administration. Use every care that we may, in some cases the injection will be followed by pain of greater or less severity, to which our patients object and to which occasionally they will not submit.

There is also a possibility of an embolism when the insoluble salts are used; however, with these preparations the writer has had no experience.

It is also said that we may have sudden and grave attacks of stomatitis, entero-colitis and pseudo-paralysis from the insoluble salts, but if care and good judgment is used I can see no reason why these should occur if the soluble salts

are used. Sloughing and abscess, which are often spoken of by writers as not being of infrequent occurrence, I have not seen. There is often some tenderness and induration, also soreness upon muscular contraction and at times some redness of the skin, but farther than that it would seem very rare, indeed, to produce more unfavorable symptoms by injecting an antiseptic fluid, even though it be a considerable irritant, with a perfectly clean syringe and needle.

Taylor aptly says of the hypodermatic use of mercury, that it is a method of "utility, exigency and emergency." It can, indeed, be productive of much good when the necessity presents itself, and the physician who does not give his patient the advantage of it in case of extreme emergency, fails to use a procedure that is capable of the most profound beneficial results.

The cases to be selected for its use should be largely those in which there is an existing necessity for the patient to be brought rapidly under the influence of mercury. This would include cases of a pernicious or malignant type, in which it is sometimes impossible to obtain results in any other manner. Also cases of rapidly destructive lesions, to prevent disfigurement or loss of function; cases of impending paralysis, whether from endarteritis or gummatous formation, and many cases of cerebral syphilis, in which a very rapid and profound effect is a necessity. In a word, it is indicated, in fact demanded, in all cases of emergency unless it is known that there are serious contra-indications to its use in the individual case—as, for example, serious kidney disease. The question as to whether it should be used as a routine treatment I think should be decided by the attending physician from time to time.

The statement appears above that the means that will most certainly and quickly relieve the manifestations of this disease and prevent their return is the best to use, but we don't want to pursue this idea in the face of severe pain and discomfort, as sometimes occurs, to the point of losing our patient. It is not my custom to treat every patient who has syphilis with injections, but I do treat a good many of them by that method. Situated as we are at the Springs we seldom have an opportunity of personally conducting the treatment of a case through the entire course, as our patients are almost entirely among the visiting class.

They remain with us from one to two or three months and then are lost sight of for several months or entirely. Where a case comes to us that has been more or less intractable at home, and where there is a necessity for the relief of manifestations quickly, even though there be some discomfort, the injection treatment is the best to use; at least until the patient is brought well under the influence of mercury, when the inunctions may be substituted. The injections place the drug where it will do the greatest amount of good in the shortest possible time.

After considerable experimentation I have adopted the following solution of the bichloride of mercury made up in two per cent. solution of chloretone:

Hydrargyri bichloride, C. P	grams	0.50	grs. viiss
Sodii chloride	"	0.25	grs. iv
Aquadestil	"	4.00	fl. ʒ j
Mix. ft. sol. (gentle heat)			
Chloretone	"	0.50	grs. viiss
Aqua destil	"	20.00	fl. ʒ v
Absolute alcohol	"	1.00	min. xv

Dissolve chloretone in 20 c. c. distilled water, add alcohol, and, finally, add hydrg. and sodii sol. Shake well and filter.

This makes a 1 to 50 solution of the bichloride, of which ten minims would represent one-fifth of a grain. It may be given in doses of from five minims up to twenty or even twenty-five.

The chloretone is not readily soluble in cold water, and the above solution is made by the addition of a small amount of absolute alcohol, in which it is very soluble. The formula given above is rendered practically painless in almost all cases by the addition of the chloretone, and I have found its use less painful at the time of injection and followed by less soreness and irritation than any other.

Chloretone is a white crystalline compound, belonging to the fatty acid series, and is formed through the interaction of chloroform, acetone and an alkali. In sufficient doses it acts as a hypnotic. It is also an antiseptic and in solution is a local anesthetic, its action in this respect resembling that of cocaine except that it is non-toxic.

In administering the injections one must be guarded largely by the effects. Ordinarily, a patient will stand ten minims every day for four to six days, then a larges dose should be given every second or third day, or possibly once or twice a week as the symptoms demand. The post-trochanteric region should be selected to give the injections, and they are given deep into the muscular tissue. The skin should be disinfected by being briskly rubbed with a piece of sterilized or carbolated gauze saturated with alcohol. The syringe most convenient to use is known as the "Sub Q" syringe. It is made entirely of glass with an asbestos packing so that it may be frequently boiled. The needle we use is a platino-iridium needle which does not corrode or rust, and should be long enough to reach deeply into the muscular tissue.

In giving the injections the syringe and as many needles as there are patients to be injected during the morning hours may be boiled and the needles taken from the water as needed.

The syringe need not necessarily be boiled before each injection when they are given close together, and when there has been no chance of infecting the inside of the syringe.

PANCREATITIS DIABETICA.

By Colonel Francis T. B. Fest, M. D., of Tegucigalpa, Honduras, C. A.,
CHIEF SURGEON OF THE ARMY, PROFESSOR AT THE UNIVERSITY OF HONDURAS.

Mrs. T. L., æt. thirty-nine, widow, nullipara. Was always a healthy, well-nourished woman. Her illness began with nausea and sense of distress after eating. Pressing on the abdomen, stooping down or lacing produced acute pains. Had headache and loss of appetite. Her condition was considered malarial and treated for several weeks with quinin, during which time she rapidly emaciated.

When I saw her the conditions were the following:

Slight but constant headache. The tongue was coated, breath offensive. Pulse was weak and no rise of temperature. Had very little appetite and was constantly thirsty and drank a large amount of water. Slept much, but not well. The pain had left, and there remained only an uncertain feeling. Pressure on the epigastrium caused some pain. Bowels moved only every three or four

days. Palpation revealed no tumor nor was the abdomen tympanitic; through the abdominal walls hard, irregular masses of feces could be felt. Micturition was frequent and caused burning. On inspection found the vulva around the meatus urinarius eroded.

Examination of urine by boiling and with picric acid was negative. Trommer's and the phenyl-hydracine test showed the presence of glucose.

The feces were of a grayish color, odor sour and had segments of tenia. The microscopical examination showed fibres and food particles undigested and demonstrated the presence of fat droplets. The chemical examination proved the presence of neutral fats; the chlorine and bromine water-test discovered no trace of tryptophan.

A test-meal was taken and resulted negative.

Diagnosis: pancreatitis diabetica. The presence of neutral fats and the absence of tryptophan proved that the secretion of the pancreatic juice was suspended. According to the glucosuria, even the glycolitic secretion had come to a standstill.

My medication was intended to supply the digestive ferments and improve the general condition. Therefore, I administered pepsin, papayotin and pancreatin, the latter in keratin-coated pills with the addition of natrium bicarbonicum. As tonic, gave iron in the form of peptonates. The diet was antidiabetic.

The erosions of the vulva were treated with applications of peroxide of hydrogen after every micturition.

Three days later no undigested food particles in the feces; there was excess of peptone products and some neutral fat. She had every day two soft stools. The glucose in the urine had diminished greatly.

Twelve days later very small amount only of neutral fats and glucose. Now I considered it time to attack the tenia, as her general condition was very much improved; she had gained several pounds. At night I gave a dose of sulphate of magnesia. In the morning she took 1.25 gm. of tannate of pelletierin finely triturated with lycopodii, magnesii carbonici, aa 25.00 gm., one teaspoonful every ten minutes until all taken, then three grammes of papayotin. In the afternoon the tenia passed, partly digested. As soon as the cellular resistance of the parasite was weakened, the papayotin began its destruction. The pelletierin was given in the indicated manner to insure the mechanical distribution over a greater area.

The medication and diet remained the same. Two weeks afterwards—and nearly one month after beginning treatment—the urine and feces were normal, and the woman able to attend to her duties. The regimen was now slowly changed to her former habits, beginning with the withdrawal of saccharine. After two more weeks the enzymes were suspended. The week after their suspension the urine had remained normal, but the steatorrhea had returned. Meantime I had obtained a quantity of pancreon, a pancreatin preparation that is greatly used in Europe, and said not to be affected by the acids of the stomach. The result was satisfactory, the fats disappeared at once. Pancreon was kept up for one month. After the withdrawal the steatorrhea did not return and the woman was discharged with instructions to present urine and feces periodically for examination.

What is the proper diagnosis of this case: pancreatitis diabetica, or diabetes pancreatica? As the diabetes was secondary and was only transitory, the name given by me covers the ground better.

Not every disease of the pancreas brings glycosuria about. I remember the case of a woman only a short time ago. I found the body turned over to me for my faculty work. The woman had entered the general hospital the day before in a state of collapse, and no satisfactory history could be obtained. The party who brought her said that the patient had had some stomach trouble, and was becoming weaker every day. Instead of pancreas we found a sac with fibrous walls adhering to the lesser omentum, duodenum, stomach and ductus cysticus. The contents were a dark mass partly liquefied without any apparent structure. Some of the mass showed the typical "Fachwerk" structure, and partly just necrogenetic detritus with some blood and fat crystals. The mass was sterile. The unusual dark color was caused by hematochromous matter, the remains of a former hemorrhage. Undoubtedly a case of autodigestion of the organ after obstruction of the duct for one reason or another. The strange part was the capsule and absence of the typical dissemination of necrotic patches as with Balser's fat necrosis. I had the contents of the bladder examined at once, but no glucose was detected. The contents of the bowels, consisting only of products of milk, were not in condition to permit satisfactory examination. The other organs of the body had the characteristic changes as after cachexias.

Apparently the woman died of inanition in consequence of the absence of the pancreatic ferments in the intestinal tract. The same would have happened with the case described as the subject of this study. Perhaps the function of the pancreas would have been re-established by itself, but I doubt very much that her vitality would have stood such a task.

Which was the actual pathological process? For hemorrhage the symptoms were not marked enough, besides, the hemorrhage is, according to my opinion, always secondary to autodigestion of the cortical tissue and corrosion of some vessel. Traumatism has to be excluded in this case. There may have been a small necrotic focus which produced sufficient hemorrhage to block the secretory duct, yet I doubt that such a clot would become absorbed in the pancreas and the digestion of the coagulum would have affected the gland at the same time. The same holds good in regard to the formation of an abscess; besides, the temperature has never been such as to justify the presence of suppuration; the consequences would have been different also.

Obstruction of the duct in some part of its course must be excluded. If the diverticulum Vateri is obstructed, we have complication by retention of the bile. There was none in this case. Passage of large biliary calculi may by pressure upon the ductus Wirsungianus impede the discharge of the pancreatic juice, but then we would have had hepatic colic, and we have had no symptom to accept this theory. I have seen steatorrhea present with cholelithiasis—most likely produced by the pressure just mentioned—and pancreatitis may follow such a retention of its secretion; but, as said before, this cannot be accepted for this case. If the obstruction had been in the ductus Wirsungianus itself, the consequences would be autodigestion, with all its sequelæ; or if the occlusion had been produced by the passage of pancreatic calculus, the passage of same would certainly have caused symptoms similar to the passage of a cholelith, and of these symptoms we had none. Quite frequently we find a ductus Santorini—I say "frequently"

and not "occasionally," as most of the text-books, because I found the accessory duct often. It may have been possible that the large duct was obstructed by some encrustation and the juice which entered the bowel so diminished until the accessory duct becomes sufficiently dilated to accommodate the full amount of secretion. I propose this theory as a possibility which may explain some cases of temporary steatorrhea; for this case I cannot admit it, because the retention of secretion within the gland would have been too prolonged not to interfere with the normal condition of its tissue and bring about its destruction. Destruction there was none—at least not extensive. Therefore, I can accept only a temporary suspension of the secretion of the pancreatic gland and its consequent partial or entire re-establishment. Whatever process was the cause, it was transitory.

The presence of the tenia was accidental and has no further bearing on the case than impairing the absorption of chyle, much more so in a country where we always have to look first for malaria and then for intestinal parasites.

As to the practical points derived from this case, I come to the following conclusions:

1. The secretion of the pancreas can become suspended for some time.

2. The secretion of the glycolytic ferment is the first function re-established.

3. The re-establishment of the secretion of the steatolyptic enzyme occurs last.

4. The natural secretion of stepsin and trypsin can be supplanted by the introduction of same per os and of other enzymes as papayotin.

5. Pancreon does away with the necessity of using kreatin-coated pills, pills of pancreatin, which coating is relatively unsafe, as can be demonstrated in vitro.

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EDITORIAL COMMENT.

SURGERY OF THE STOMACH.

The present important place which the surgery of the stomach has taken gives an especial interest to the article by Dr. Ochsner, which appears in this issue. This is the more true when we take into consideration the immense amount of work which he has done in this line; having, as he has, seventy-three gastro-enterostomies alone to his credit. It is only from such extensive experience that really valuable conclusions can be drawn; it is only from comparing various methods in a large number of instances that the best can be selected and the most desirable results be obtained. Ochsner goes so far as to say that most gastric diseases which permanently resist medical treatment must eventually come to operation if a cure is to be accomplished. This conclusion is based upon the knowledge that most of these patients suffer from faulty drainage of the gastric contents. It does not matter whether the stagnation be the result of tissue changes at the pylorus, kinking, due to the pulling of adhesions to the pylorus, displacement of the stomach, or what else, faulty drainage, in most instances, means operation some time. The principal diagnostic difficulty comes in those cases in which there is a nervous element. Some neuroses can not be differentiated from conditions really needing surgical attention, so the author thinks it likely that cases will now and then be operated upon in which nothing objective is to be found. He calls attention to the fact that the gall-bladder must be examined at every operation made upon the stomach, as, in many instances, the former will be found diseased where attention was directed to the stomach. In gastroenterostomy the Murphy button has given the author perfect satisfaction after excision of the pylorus, though the new opening may contract in simple gastroenterostomy where the pylorus has not been removed. In

these instances, Ochsner seems to think very well of the elastic ligature, which he has used many times. A careful perusal of the paper will repay anyone interested in the subject.

THE QUALITY OF THOROUGHNESS IN NURSES' WORK.

It would be well if the profession generally, but in particular those associated with hospital work, or engaged as instructors of nurses in the various training schools throughout the land, would give more than a passing glance to "An Address to the Graduating Class at the Johns Hopkins Hospital Training School for Nurses," made May 28, 1903, by Isabel Hampton Robb, entitled "The Quality of Thoroughness in Nurses' Work" (*Bulletin Johns Hopkins Hospital*, Vol. xxiv, No. 150).

The author is exceptionally well qualified to discuss this theme, for she herself was one of the first to engage in nursing at the Johns Hopkins Hospital; and since, whether employed in her professional work or living the private life, has continued closely in touch with nurses and nursing and interests that tend to uplift both.

Differing from the conventional platitudes incident to such occasions, facts are discussed with a commendable directness and with a pungency that would be impossible from one who was not at the same time nurse and woman, and upon whom the harness had not been laid through an extended period of honorable service.

With due praise for the nurse individually and collectively, her work, and the social and professional niches which she occupies, in particular the Johns Hopkins nurse and her work, throughout the entire address, interwoven with judicious appreciation and words of cheer, runs a thread of warning and solicitude. Manifestly, the pruning-knife can do its duty with far more grace when applied by feminine hands. Surely this profession, itself essentially womanly, may not rebel against authoritative criticism from one of its own household.

The following paragraphs, picked somewhat at random, will afford a fair idea of some of the more salient themes, and, it is hoped, stimulate interest in the original article:

"It is not that you may be puffed up or satisfied with yourself, but rather realize the burden of the responsibility laid upon you, and that when you have done your best, you may say with all humility that 'We are unprofitable servants; we have done that which it was our duty to do;' and strive to make the future stand for better work than the past."

"It is a great satisfaction that she (Miss Nutting) should have been among the first to inaugurate successfully the three-year course of study, with an eight hours' daily system of practical work, which marks one of the greatest advances in training school methods. Her last great achievement has been the establishment of a preliminary course of instruction for probationers."

"That there is a deep and wide-spread dissatisfaction felt at the lack of thoroughness in much of the work today, and that this deficiency is confined to no particular class of workers and to no particular degree of service, we are all aware."

"All of us have heard a portion of the public sentimentalize and idealize the nurse with such fulsome flattery that we have sometimes prayed that we might be saved from our friends."

"In the statement that there is a sad lack of thoroughness in the average

woman of today, I need only to refer to training school statistics to bear me out. From one school in twelve months 1200 letters of information are sent out, and some 175 formal applications are received. Furthermore, from this number only 50 candidates are selected; and, nevertheless, from this restricted number of women chosen, at least 8 or 10 are dropped, generally for inefficiency and lack of education. If, then, only 40 women out of a total of 175 applicants are considered worthy of admission to the school, what is the probable standard of education among the other 135, not to mention the many women who do not make formal application because refusal is certain?

"In other words, inefficiency, superficiality and lack of thoroughness belong not to the graduate nurse alone, but are the common property of the modern women, and belong to the average American household."

"But, as a matter of fact, actual experience has amply proved that the woman of wealth, the well-to-do woman, and the college student, are equally deficient in manual dexterity, so essential to good nursing, and are as ignorant of the underlying principles of household affairs as is the woman who has never had an opportunity to develop her mental power and has labored all her days with her hands."

"Even a superficial consideration of the question will readily show that the inefficiency of the trained nurse can justly be placed only where it belongs—in the lack of proper early education."

"We need two orders of trained nurses—the new order of the co-operating health nurse with the old order for the sick, who must ever be with us. The appointment of a staff of trained nurses to the schools of New York by the Health Commission, for the purpose of continuing the work in the public schools, is the beginning of this new order, and is a hopeful sign of the times."

Today it is, of course, trite to say that one of the most valuable adjuvants to the efficient practice of medicine (which, after all, means the amelioration of the ills of humanity) is the trained nurse. She must be classed not as an upper servant, nor yet as a genius, nor as a devoted and "lovely" martyr; rather as a woman of specialized training, possessed of certain elements of scientific thought, and, as a rule, is found to be, both as to capability and efficiency, the superior of the average of her sex. It is well that sound words of warning and criticism should be uttered—better that they emanate from one of the order. It is easy for the physician either to ignore or criticise the nurse or, perchance, permit her in her daily work to act as a buffer between himself and the patient. Are we as medical men doing our share toward lifting the order to a higher level? The individual nurse may be, and often is, a bit opinionated—a trifle puffed up with a knowledge of which other members of her sex are in pitiable ignorance. And yet, her faults admitted (though not condoned), she stands for the best in the field of nursing that the centuries have produced. The nurse is justified in looking to the physician as her mentor for definite instruction regarding things that she must know regarding their practical application. It would seem well that not only should the incapable woman be dissuaded from entering the order, but requirements for admission should be so elevated that she would be effectually barred. There is an unquestioned need not only for women more capable intrinsically, but better trained women, for the nurse of today has not yet attained the periphery of her well-rounded possibilities. In order to combat the tendency toward post-graduate deterioration, hospitals and training schools should be instructed to admit graduates for terms of service, and the influence of the medical man should be exerted to induce the nurse to undergo, at fairly frequent intervals, a period of hospital service.

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF

JESSE S. MYER, M. D.

Fever and Sugar Excretion.—RICHTER (*Berliner Klinische Wochenschrift*, No. 37, 1903).—The relationship existing between fever and the excretion of sugar has long been recognized. It was observed by Gerhard, Griesinger, Pavy and others that, in a series of febrile processes, the glycosuria of diabetes disappears, and that following such processes the tolerance for carbohydrates is decidedly increased. Many theories have been advanced in explanation of this phenomenon. The probable causes are the loss of appetite and poor absorption, which characterize febrile diseases. In cases in which these factors are not at work, the glycosuria in diabetes is not diminished.

Experiments upon animals have shown that fevers due to bacteritic infections are accompanied by a decrease of sugar, while fevers due to aseptic causes (for instance, an injury to the heat center in the corpus striatum) were accompanied by an increase.

In one series of experiments glycosuria was produced through the use of Adrenalin, and then fever through injuries to the corpus striatum. It was found that the fever had no influence whatever upon the glycosuria.

In a second series of experiments glycosuria was brought about through the same means, while the fever was produced through bacterial infection. In these cases the glycosuria practically disappeared entirely. In other words, the fever itself had no influence upon the glycosuria, while the infection resulted in a diminution and disappearance of the same.

An Unusual Murmur (Gefaess gerausch).—PEL (*Berliner Klinische Wochenschrift*, No. 15, 1903).—A patient thirty-two years of age came to the hospital because of rheumatic pains in the knee-joints. He had often had hemoptysis; there was a slight retraction of the right supraclavicular space, moist rales, etc. A continuous blowing sound could be heard over the right upper lobe of the lung, most distinctly posteriorly. This murmur was accentuated during the systole of the heart, and was accompanied by a high-pitched whistling note, almost musical in nature. The normal respiratory sounds were almost entirely covered by this murmur.

The author attributed the phenomenon to a possible peculiar relationship of the pulmonary artery and vein of the right upper lobe. Either the two vessels communicated with one another, or there existed a dilatation of the vein upon which the artery pressed during each systole.

A Study of Leucocytes.—MEYER (*Muenchener Medicinische Wochenschrift*, No. 35, 1903).—The article presents the observations of the writer with reference to the action of tincture of guaiac upon the various forms of leucocytes. Ehrlich divides leucocytes into two classes, depending upon the guaiac reaction. Brandenburg first noticed that the blood and the bone-marrow in myelogenic leukemia is stained an intense blue by the tincture of guaiac, while all other tissues, even though rich in lymphocytes, show no such reaction.

Meyer applied this test in myelogenic and acute lymphatic leukemia to the bone-marrow, thymus, lymph-nodes and pus. The guaiac test was positive only in the blood of the myelogenic leukemia.

The Expulsion of Gall-Stones Through Lavage.—KUHN (*Muenchener Medicinische Wochenschrift*, No. 39, 1903) introduces a tube into the incision during an operation, and washes out the gall-bladder under a pressure of 200–1000 mm. water, maintaining that the procedure has both a diagnostic and a therapeutic value. It enables one to determine whether or not the bile passages are free; and, if they are not, will render them so through the liberation of foreign bodies contained therein. He recommends the simultaneous administration of morphine and atropine. The author maintains that gall-stone colics are the manifestations of an increased pressure in the biliary passages. The same may be produced through the washings here recommended, but are easily controlled.

Changes in the Gastric Secretion in Cases of Unilateral Extirpation of the Kidney.—VON STEJSKAL and AXISA (*Centralblatt fuer Innere Medicin*, No. 38, 1903) maintain that the extirpation of a kidney results in temporary changes in the gastric secretions. The changes affect chiefly the secretion of hydrochloric acid. The diminution of the acid continues until, on the third or fourth day after the operation, it is entirely absent. After this time it begins to increase until about the tenth day when it reaches the normal. There seems to be also a diminution of the pepsin. However, the investigations with reference to the ferments do not justify the statement of definite results. They believe that there is a close relationship existing between the gastric juices and the urine, inasmuch as they are the only acid secretions in the body manufactured from the alkaline blood.

Tuberculosis of the Tonsils.—GLAS (*Wiener Klinische Wochenschrift*, No. 36, 1903) reports three cases of clinically primary tuberculosis of the tonsils. The possible sources of infection of the tonsils, primary and secondary, are discussed in detail. It may occur through inspiration, through the sputum, through the nose, through lymph channels, through the blood channels, through food injected, through the continuity of neighboring tissues which are involved.

Two of the cases were clinically those of primary tuberculosis of the tonsils. The third case (one of miliary tuberculosis of the tonsils) seems to have occurred through sputum infection, and the infection spread to other organs through the lymph and blood channels.

In all three of the cases the tonsils presented a simple picture of hypertrophy. Bacilli were found in each case, and in two of them (as is seldom the case) in very large numbers. In one case the vocal cords were secondarily involved. The cases are of unusual interest because of their rarity.

A Meningitic Affection Produced by Meningococci Without Anatomic Lesions.—BIRNBAUM (*Muenchener Medicinische Wochenschrift*, No. 29, 1903).—A few days following the incision of an abscess at the root of a tooth the patient became ill with fever, vomiting, headache, hyperesthesia of the skin; pulse, 101 to 110, etc.

The lumbar puncture was made three times and each time a clear fluid was obtained in which no micro-organisms were found. The symptoms above named persisted, so craniotomy was determined upon. The meninges presented a perfectly normal appearance. Aspiration of the ventricles revealed a clear fluid containing intra-cellular diplococci presenting the morphologic and cultural characteristics of the meningococcus of Weichselbaum. The autopsy revealed no pathologic lesions in spite of the protracted illness.

A Case of Chronic Ulcer of the Stomach with Severe Hemorrhage, Circumscribed Peritonitis and Double Perforation Into the Intestines and Urinary Passages.—STEIN (*Muenchener Medicinische Wochenschrift*, No. 38, 1903) reports a case of chronic ulcer of the stomach which had yielded to treatment on previous occasions. On this occasion the symptoms appeared suddenly after a long period of relief. The symptoms were unusually severe—vomiting, great weakness,

pain and peritoneal irritation. Ten days later followed hematemesis, and shortly afterwards a marked albuminuria. Following this there suddenly appeared in the urine and in the stool large quantities of foul-smelling pus. From this moment the subjective symptoms of the patient were relieved. The presence of pus in the stools was noticeable for eight days, in the urine for three weeks. A careful study of the case led the author to the conclusion that he had to do with a case of chronic ulcer of the stomach, which resulted in severe hemorrhage, then in perforation and circumscribed peritonitis, and, finally, a rupture of the pus sac into the colon and the pelvis of the left kidney.

SURGERY.

IN CHARGE OF

WILLARD BARTLETT, M. D.

Suture of Vessels, Transplantation of Vessels and Replantation of Amputated Extremities.—HOEPFNER (*Archiv fuer Klinische Chirurgie*, Band lx, Heft 2).—This extensive experimental article is almost sensational in character, and is, to say the least, fraught with decided interest. The author's method of making end-to-end anastomosis between arteries is to bring the central stump through a magnesium ferrule, and then turn back the vessel like a cuff over the end of the ferrule, so that the endothelium is on the outside; now, the end of the distal stump is drawn over the other and a ligature tied around the whole, thus bringing endothelial surfaces in contact. He did twenty-eight of these. In some cases the magnesium tube was disintegrated within two weeks, while in others it lasted many months. In four out of six simple anastomoses the result was perfect; in the other two a thrombosis of the vessel took place at the site. One of the most interesting experiments was as follows: Three centimeters of carotid and a like amount of femoral artery were excised from the same dog and each anastomosed into the area which the other had occupied, with the interesting result that both healed into their new positions and functionated normally. Next, the same experiment was tried on two dogs, the carotid of one replacing the femoral of the other; here the result was only partially successful; the new femoral became thrombosed while the new carotid did perfectly, and when laid bare at the expiration of forty-five days pulsated normally.

The author gives as his conclusion that anastomosis after this method of Payr should be the operation of choice in injury to more than half the circumference of an artery. The transplantation of sections of vessels is to be thought of where the removal of tumors necessitates the removal of segments.

Most interesting of all, a hind leg of each of three dogs was amputated; then the femoral artery and vein anastomosed and the sciatic nerve, as well as the muscles and skin, sewn together. One dog went bad from the beginning, the second kept up his circulation for five days, but on the fifth a phlegmon formed and the vessels rapidly became thrombosed, while in the third the result was all that could have been desired. The replanted leg was in perfect condition up to the eleventh day, when the animal was killed by an accident. In order to keep him still while the bandage was changed, chloroform was administered and the animal succumbed to its effect. All the tissues were found nicely healed together and the vessels free from thrombi. The novelty of the article surely recommends it as worthy a perusal in the original.

Three Cases of Bi-Saculated Hydrocele.—MARTIN (*Archives Provinciales de Chirurgie*, Tome xii, No. 9).—Since there are but thirty of these cases on record,

Martin considers it of importance to publish these three. As early as 1777 the English surgeon, Percival Pott, gave us the first description of this condition, and no better one has been furnished to the present day. The explanation for the formation of such a sack is believed by our author, with Duplay, to be a collection of fluid in a preformed tunica vaginalis, the upper extremity of which has become previously closed. The upper sack is said by Martin to be merely a diverticulum which happens to lie within the abdomen.

The diagnosis is made by observing the ordinary hydrocele and feeling that there is an intra-abdominal tumor connected with it along the course of the inguinal canal. The treatment which has been successful in all of the author's cases has been a complete dissection of the two sacks, with a consequent suture of the pillars of the ring, just as in an ordinary hernia operation.

The Operative Treatment of Umbilical Hernia.—WARREN (*The Boston Medical and Surgical Journal*, October 8, 1903).—Warren makes the superficial incision in the median line, but unites all the deeper structure in such a way that the deeper sutures close the wound at right angles to the axis of this incision. He sews with silk the edges of peritoneum, fasciæ and skin separately, and excises a considerable portion of the subcutaneous fat. The shape of the hernial opening has taught him that the greatest tension is to be expected in the transverse direction, hence the upper and lower edges of the wound must be sewn to one another if the best results are to be secured. In eleven cases operated upon by this method there has been but one recurrence during a time after operation of from one to thirteen years. The author remarks that the prognosis of the formerly much-dreaded cases of this kind now approaches that which can be guaranteed in inguinal hernia.

A New Modification of the Maydl Operation for Congenital Extrophy of the Bladder.—BORELIUS (*Centralblatt fuer Chirurgie*, No. 29, 1903).—This original idea of implanting the trigone in the rectum is the only one which can lead to a functional result; still it must be kept in mind that the danger of an ascending infection is ever present. The modification which the author advocates is the manufacture of an anastomosis between the two limbs of large intestine which are stretched by drawing out the portion to which the new attachment is to be made. The idea, of course, being to short circuit the feces and prevent the current from passing over the mouths of the ureters. Two cases are reported: in one no anastomosis was made and the patient died a few months later from an ascending infection. This new idea was carried out in the other case and all is still well, though a comparatively short time has passed as yet.

An Improvement on the Borelius Modification in the Maydl Operation.—MUELLER (*Centralblatt fuer Chirurgie*, No. 33, 1903).—The author considers it impossible to completely divert the fecal current in the manner above proposed, though he admits that this may be accomplished in part and the danger thus be diminished. He considers it far better, in this direction, to sever the bowel just above the point at which the trigone has been implanted, and then to sew the distal portion as high as possible onto the anterior abdominal wall, after which the end of the proximal segment is implanted into the side of the other, as low as possible.

Modification of the Maydl Operation.—BORELIUS (*Centralblatt fuer Chirurgie*, No. 37, 1903).—It seems to Borelius that the Maydl procedure alone is about all that a patient can stand without adding what Mueller proposes.

General Anesthesia in Operations About the Face.—OMBREDANNE (*Gazette des Hopitaux*, No. 109, 1903).—It has been common to use one of the ordinary masks

for this purpose, and thereby the anesthetist has been constantly in the way, while the asepsis has been rendered doubtful. Where a small compress has been applied during the actual time of the operator's work, it has been impossible to keep up anything like a uniform anesthesia, hence we are ready to welcome any device which brings the vapors of the drug directly into the air passages without interfering with the field of operation. The author has used, with perfect results, a small device which is introduced into the patient's mouth after he has been rendered unconscious by the use of an ordinary mask. This consists of a sort of obturator of metal that fits between the lips and teeth in such a manner as to completely obstruct the mouth; to the center of this is fitted a long rubber tube, at the other end of which there is a sponge, to be kept soaked with the anesthetic. The nares are plugged and then all is ready for work. Of course, the tongue cannot be grasped with a forceps, but as the author mentions, this is rarely necessary if only the angle of the jaw be well supported. The apparatus can be easily slipped out in case of vomiting, and after being cleansed can be reinserted at a moment's notice. The apparatus has given excellent results in a number of cases involving the face.

The Pathology of the Subcutaneous Ruptures of the Gastro-Intestinal Tract.—Sauerbruch (*Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie*, Band xii, Heft 1).—In this very long and instructive article the author seeks to divide these injuries into several different kinds and to arrive at the mechanical moment responsible for this or that special kind of injury. He first takes up "crushing" of the bowel, and cites a large number of cases illustrating this class of injury. The reason that the intestine is seriously injured by a crushing blow upon the anterior abdominal wall is that it comes against the unyielding spinal vertebræ, while the explanation for the fact that the anterior parieties are not hurt lies in the circumstance that they rest on the air cushion which the hollow viscera furnish. It is then self-evident that meteorismus tends to prevent just this sort of injury to the bowel itself.

"Bursting" of the bowel is next considered. Here the main causal factors are high tension within the gut, and a condition in which the escape of gas or fluid from either end of the segment is for the moment impossible. This last condition is easiest brought about by pressure on the wall of the abdomen causing strangulation of the intestine or closure of a segment. In a number of experiments made upon the stomach, where these conditions can easily prevail, the author always succeeded in bursting the lesser curvature. Such a result was, however, found to be impossible after gastro-enterostomy had been made.

"Tearing the bowel from its attachment by traction" is next considered. Here, as a matter of course, two forces working in different directions, are necessary. In one case the horn of a cow caught the relaxed abdominal wall, and, without tearing it, managed to hook around the invaginated tissues a loop of small bowel, and to tear it from the mesentery. This rare form of accident has been known to occur, where a man fell from a great height with his intestines filled with fluid feces. The fall was suddenly interrupted, as a matter of course, but the weight of the bowel with its momentum being thus brought to bear upon the point where the mesentery is fixed to the spine, was sufficient to tear loose the attachment of the mesentery.

The size of the rupture has much to do with the symptoms which are presented when the accident occurs. Shock and hemorrhage are decidedly greater when the new opening is large, while, as might be expected, there may be the escape of no contents in a very small rupture, something which we often see exemplified when mucous membrane plugs the hole made by a bullet.

Ectopic Spleen in Consequence of Malarial Enlargement.—Pozzi (*Bulletins et Memoires de la Societe de Chirurgie de Paris*, Tome xxix, No. 29).—The mass

was so low down in the abdomen that a diagnosis of uterine tumor was made. But at the operation there was found a tumor wrapped in omentum, with a large vascular pedicle coming from above, the whole resembling a floating kidney, though, interesting to state, it was impossible to tell just what it was on the operating table. The whole was removed, and on microscopical examination traces of splenic tissue were found, so all uncertainty was cleared up. It is not without interest to relate in this connection that the woman after recovering and leaving the hospital, poisoned herself with mercuric chloride, and at the autopsy which followed, the spleen was found to be absent. This case has its chief interest in the fact that a diagnosis was impossible even after the abdomen was open.

Notes on a Case of Fusiform Aneurism Treated by Matas' Method.—MORRIS (*Annals of Surgery*, October, 1903).—By this interesting operation Morris succeeded in constructing some three inches of arterial channel through a fusiform aneurism. After the sack had been opened and clots evacuated, he sutured together the walls of the lower portion of the sack, in such a way, with chrome-gut, that the channel above referred to was left. A second row of stitches reinforced the first, and when the blood was let back into the old course no leakage occurred. The sack was left in place, and after superficial suture the wound healed in its entirety. Before the operation there had been great disturbance of function in the operated side, this having been a popliteal aneurism; but after the wound healed there was complete physiological restoration in the arterial regions previously affected.

The Consequences of Ligating the Femoral Vein Below Poupart's Ligament.—HALBERSTAEDTER (*Beitraege zur Klinischen Chirurgie*, Band xxxviii, Heft 2).—The author asks himself the question, why is it that the ligation of the femoral vein in a young vigorous person leads to gangrene of the leg sometimes, while the same thing can be done occasionally in an emaciated old man without the slightest ill-effect? There seems to be two reasons for this: in the first place, there are not regularly present collateral ways for compensation to take place, and in the second place there are usually valves in the existing collaterals which must be overcome before the stream can flow backward, as is necessary if compensation is to occur. Now, the anatomy of the valves shows them to be very inconstant, hence they can be overcome in one case much easier than in another; which would in itself explain the matter. Unfortunately, however, we have no means of telling accurately in advance just which patient possesses perfect valves and which can stand ligation of the vessel in question. The author has seen one case in which gangrene occurred, and finds in the literature fifty-four cases reported, with but two such accidents. Where the femoral artery is ligated at the same time, there is much greater likelihood to gangrene; since it is only by a high intravenous pressure that we can hope to overcome the valves and see compensation established; this is directly combated by ligation of the artery. Further circumstances which favor collateral circulation are the removal of the shortest possible segment of the vein, and the greatest protection, in other ways, of all the collateral veins.

A Few Complications of the Artificial Anus and Their Treatment.—GERAUD (*Revue de Chirurgie*, No. 8, 1903).—There are two general causes of all the disorders which come under this class, viz., infection and a transformation of the mechanical order of things—that is, extrusion of the bowel or its mucous membrane. The author considers the former a more common accident than the latter. It is of course a combination of intra-abdominal pressure and peristalsis which leads to this accident. Soon ulceration of the mucous surface is likely to occur in either form of the trouble and then an inflammatory thickening of the bowel

wall leads to the necessity of its excision. The protrusion of one limb is about as frequent as that of the other, and it must be admitted that protrusion of the mucous membrane generally precedes a like trouble of all the coats, which latter is usually sudden and occurs as a result of some violent effort. One case is on record in which the affection subsided spontaneously, though this were hardly possible in case the incision had been long a potent factor, by the way, in the etiology. Strangulation of a prolapsed segment is not uncommon and a case is recorded in which there was a hernia of a second loop into the already prolapsed one. The principal treatment concerns itself with prophylaxis—that is, the patient must void feces in the horizontal position and without too much effort, but before this comes the matter of establishing the artificial anus in such a manner that there shall be no leakage and the least possible tendency to herniation.

THERAPEUTICS.

IN CHARGE OF

ALBERT E. TAUSSIG, M. D.

The Permanent Results of the Internal Therapy of Gastric Ulcer.—JOHANNES SCHULZ (*Die Heilkunde*, 1903, p. 337).—In 1896 at the Medical Congress at Breslau, v. Mikulicz discussed the question whether in severe and obstinate cases of gastric ulcer, surgical intervention was justified even when there was no immediate danger to life. In this connection he reviewed the results of internal treatment and was forced to the conclusion that no reliable data exist on this point. According to the available statistics he concluded that the mortality of unoperated cases lay between 15 and 50 per cent. and probably averaged 25 or 30 per cent. In the discussion, most of the internal medical men held that 15 per cent. should be considered the maximum mortality in gastric ulcer. The same difference of opinion appeared when v. Leube discussed the surgical treatment of gastric ulcer, at the German Surgical Congress in 1897. V. Leube analyzed a material consisting of four hundred and twenty-four cases treated internally by him. Of these he reported 74 per cent. as absolutely cured, and 21.9 per cent. as greatly improved, while 16 per cent. were not improved, and 2.4 per cent. died. Of one hundred and ninety-five cases in which the diagnosis was unquestionable, the mortality was 4.1 per cent. On the other hand, v. Mikulicz rejected these figures and insisted upon the existence of a mortality of 25 to 30 per cent.

In view of this difference of opinion, the late Prof. Kast, chief of the medical clinic at Breslau, inaugurated an inquiry into the ultimate fate of patients with gastric ulcer, the results of which are now published by his assistant. The material comprises two hundred and ninety-one cases treated at the university clinic in Breslau and at the general hospital in Hamburg. Of these, information that could be used was obtained concerning one hundred and fifty-nine cases. Only those cases were included in which there was observed both pain and bloody vomit, as in these the diagnosis seemed most positive. The minimum time of observation was six months, though in many cases it extended over many years, up to twenty-four. A case was considered cured when after a period of at least six months since his discharge, neither the eating of heavy food nor severe physical labor had brought on a relapse. Of two hundred and ninety-one cases treated internally, 57 per cent. had been discharged cured, 32 per cent. much improved, 5.5 per cent. not improved, while 5.5 per cent. died. The permanent results in the one hundred and fifty-seven from whom reports were received were as follows: 53 per cent. entirely well; 24 per cent. slight distress; 15.4 per cent. with continued suffering, and 7.6 per cent. dead. Of the 77 per

cent. who were reported cured or nearly so, 17 per cent. (*i. e.*, 13 per cent. of the whole number) had had a relapse, from which, however, they had recovered entirely or nearly so.

The conclusions to be drawn from these statistics are: 1. The immediate results of the therapy of gastric ulcer give no reliable data as to the permanent results of the treatment, since after an interval of six months or over, the per cent. of those greatly improved falls from 89 to 77, while the per cent. of those not improved rises from 11 to 23. 2. That nevertheless the mortality of gastric ulcer cannot be called a high one (7.6 per cent.), and that v. Mikulicz's estimate of 25 to 30 per cent. is not borne out by the facts.

Concerning Intestinal Disinfection.—SCHAFER (*Wien. Med. Pr.*, 1903, No. 18).—The cases of enteritis so frequently observed in penitentiaries are chiefly due to the unaccustomed diet and mode of life. The causes that lead to these disorders cannot well be eliminated and recourse must be had to medicinal treatment. The writer has obtained good results from ichthalbin, especially in mucous diarrheas. He gives 2 g. (3ss.) three times daily.

The Treatment of Acute Opium Poisoning.—JOHN SLADE ELY (*Yale Medical Journal*, October, 1903).—It is still generally believed that in opium poisoning the coma is the chief element of danger. It is for this reason that strenuous efforts are often made to keep the patient awake, a course of treatment that only exhausts him and is usually unsuccessful. The writer believes, in accordance with the best physiological and pharmacological information at our disposal, that the coma of opium poisoning has no destructive effect *per se*—that the failure of respiration which follows is not its result, but a concomitant expression of the action of the poison on the respiratory center in the medulla oblongata. Though the primary effect of opium in man would appear to be exerted on the cerebrum, in this action there is no direct menace to life. It is only when its action extends to the respiratory center that life is threatened.

It has long been known that the action of opium on the heart, even when administered in large doses, is insignificant. There is indeed usually stimulation rather than depression. The correctness of this view is indicated by the behavior of the heart in severe and fatal cases of opium poisoning. Here it has been repeatedly observed that the heart has continued to beat regularly and with good force even up to the time of complete cessation of respiration and has seemed ultimately to fail only as a result of the respiratory failure. This is most strikingly shown in a case of the writer, of profound opium poisoning which ended in recovery. In this case, for more than six hours after cessation of spontaneous respiration, and during continuance of artificial respiration, the heart continued to beat with good strength. Whenever the artificial respiration was stopped the heart failed, and on several occasions the patient became almost pulseless at the wrist, but with the resumption of the artificial respiration the regular strong beat of the heart returned in each instance. There are many similar cases on record in which artificial respiration has supported the action of the heart and in which a similar dependence of the heart action upon the respiration has been noted. We may, then, consider it as clearly established that in acute opium poisoning, death is the result primarily of paralysis of respiration. In a considerable number of cases of profound opium poisoning in which artificial respiration has been the only treatment, recovery has resulted.

Since Vogt, in 1875, demonstrated the presence of morphine in the stools of a morphine *habitue*, the view that morphine is excreted primarily by the digestive tract has received abundant proof. The stomach plays the chief role in the process. In dogs the stomach contents contain morphine two and a half minutes after the hypodermic administration of the drug. The excretion into the stomach continues actively for half an hour, more slowly for another half hour

and then ceases. The same phenomenon has been observed in man. It would seem, then, that the gastric mucous membrane is an active excretor of morphine, that the excretion begins almost immediately and when the stomach is repeatedly washed ceases in about an hour, presumably because in that time most of the morphine in the body has been eliminated. If not removed by lavage, however, the morphine excreted into the stomach passes down into the intestine and is there reabsorbed with a resulting continuance of the toxic action. The vomiting of opium poisoning is probably a conservative effort on the part of the body.

Rational treatment of poisoning of any sort resolves itself into antagonism of the lethal action of the poison and obtaining of speedy elimination of the poison from the body. The above considerations indicate that in opium intoxication the former indication is best met by artificial respiration and the latter by repeated gastric lavage, and that no matter how the drug has been administered. Of the pharmacologic antidotes the only rational one is permanganate of potassium. It has been shown that the latter possesses a peculiar selective action upon morphine, oxidizing it to the harmless oxydimorphine. The gastric lavage is probably rendered more efficient if a dilute solution of permanganate is used instead of plain water. Whether the hypodermic administration of permanganate will oxidize the morphine present in the circulation, while possible, is still open to doubt.

Finally, the writer urges that the conservation of the patient's strength is of the greatest importance in opium poisoning. Accordingly there should be avoidance of every unnecessary measure tending to exhaust him and to diminish his vital power. For this reason the practice of walking the patient up and down the room, flagellations and the many other means so frequently employed to keep him awake should be abandoned.

Concerning the Utility of Iron Therapy.—E. Biernacki (*Wiener Med. Wochenschr.*, No. 18–20, 1903).—The writer has studied a large number of cases of various kinds of anemia, investigating not only the variation of the amount of hemoglobin during the administration of iron, but also the number of blood corpuscles and the amount of dissolved solids in the blood. His conclusion is that only in chlorosis is the administration of iron of real value. In other anemias little is to be expected from this therapy. In particular, that large number of neuropathic individuals who, though very pale and having many of the symptoms of anemia, show nevertheless no real impoverishment of the blood, is injured rather than benefited by iron medication. The wide-spread custom of prescribing iron in all cases of marked pallor without ascertaining whether the condition of the blood demands such treatment, is earnestly to be condemned. When indicated, as in chlorosis, iron should be given in large doses. Small doses, as, for instance, in the use of chalybeate waters, serve no useful purpose.

The Internal Treatment of Dupuytren's Contracture.—Leugemann (*Deutsche Med. Wochenschr.*, No. 23, 1903).—The operative treatment of Dupuytren's contracture is not always satisfactory, even when all the scar-bands are extirpated. Accordingly, the writer tested in Prof. Mikulicz's surgical clinic the absorbent effect upon scars of thiosinamin. In two cases, one mild and one rather severe, this treatment gave good results: the scar tissue grew softer, the fingers could be extended and the patients regained good use of their hands. To say the least, the results seemed to be as good as are usually obtained by means of operative interference.

The treatment consisted in hypodermic injections of 1 c.c. of the following solution: Thiosinamin, 2.0; glycerine, 4.0; aq. dest., 14.0, into the neighboring tissue. At first the injections were given daily, later weekly. No ill after-effects were observed.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

CARL FISCH, M. D.

On a Rapid Method of Staining Neuroglia.—ROY MCL. VAN WART (*Johns Hopkins Hospital Bulletin*, No. 150, 1903.)—This method, which will prove to be of immense value, differs from the neuroglia-staining processes so far employed by the fact that it applies the mordant not to the piece of tissue *in toto*, but to the cut section. As mordants Mallory's formula is used in a somewhat modified form and as stain an aniline-crystalviolet solution, followed by Weigert's iodine solution. The tissue (up to ten hours after death) is fixed in 10 per cent. formol and then in the ordinary way imbedded in paraffine. The staining of sections cut from the blocks takes only a few minutes. The neuroglia nuclei and their chromatin and the neuroglia fibres stain a light violet color, the nucleoli of nerve-cells and the endothelium lining the capillaries a similar color. Connective tissue is not stained.

The reviewer has experimented with this method and has had satisfactory results. It is, however, to be mentioned that the intensity of the stain is not very great and differs in that respect somewhat from the depth and sharpness obtained after Weigert's or Benda's (Huber's modification) prescriptions. It has also been noticed that the times stated by the author for mordanting and staining the sections can with advantage be much prolonged; the results are much better when the sections are mordanted and stained for fifteen minutes in each operation. Workers in the histology of nervous tissue will receive the new method as a relief from the valuable but uncertain and tedious processes so far in use.

About the Presence of Bacteria in the Udder of Cows.—V. FREUDENREICH (*Centralbl. f. Bacter.*, Vol. x, No. 13, 1903).—The author examined the udders of a great number of milk-cows, taking the most stringent precautions against all possible sources of error. Not a single gland was found that did not contain larger or smaller numbers of bacteria. Most of the cows examined were in good health and furnished a milk of good quality. The bacteria found were some micrococci, a peptonizing bacillus and now and then the bacterium mycoides and the bacterium lactis acidi. In normal glands the number of bacteria varies considerably. Whether the presence of the bacteria is due to their transport by the blood or whether they enter through the ducts could not be established. It is certain that if bacteria are injected into the duct, they are later to be found all over the udder. On the other hand, in the organs of normal animals (spleen and kidneys) repeatedly the same bacteria were found. These investigations show distinctly how carefully the bacteriologic examination of milk ought to be estimated as to its meaning. More stress ought to be laid on the differentiation of the various forms; the estimation of milk according to the number of bacteria alone means nothing except for concerns where at high expense it is attempted to preserve the original condition of milk. Here the number of bacteria ought not to exceed much that found at the time of milking. Except under these conditions no milk will be found on the market containing during the warmer months less than 50,000–100,000 bacteria to the cc.; this does not mean that the milk is unfit for use. The number must increase considerably higher before an influence on the constitution of the milk is to be noticed.

Cytodiagnosis.—B. CZERNO-SCHWARZA, u. Z. BRONSTEIN (*Berl. Klin. Woch.*, No. 34–35, 1903).—In view of the exaggerated importance that has lately been

bestowed on the so-called cytodiagnosis of fluids removed from the body-cavities, a subject that has come into prominence, mainly through Widal and his followers, the above paper is very valuable. It reduces the value of the method to its proper sphere and in the hand of careful personal observations shows up its limitations and dangers. Among careful observers, of course, all the objections raised were well known and appreciated, but they have never been presented in their entirety in such a complete review as the authors give. The fallacies in diagnosis arising from the varying periods in which the fluids in a single case are examined do away even with the most vaunted advantage of the method—the demonstration of a tuberculous origin. The authors deny that the practical value of the method is really great, that we are enabled by it to make a correct diagnosis, or that it will assist us to recognize a condition where other clinical symptoms are as yet indefinite. It will never be an essential feature of our clinical methods of examination.

The Formation of Specific Anti-Bodies After Cutaneous Infection.—F. KASTEN (*Deutsch. Med. Woch.*, No. 36, 1903).—Hoffmann had demonstrated that rubbing in on the razed skin of rabbits the living typhoid cultures resulted in the production of agglutinins in the serum of the animal and that the quantity of this substance so obtained could equal that after intraperitoneal injections. Kasten, under the direction of Kolle, has repeated these experiments and confirmed them. Not only agglutinins, but bactericidal anti-bodies could be obtained by this method with a concentration almost that of those produced by subcutaneous or intravenous treatment. His main effort was to elucidate in what way the bacteria under these circumstances succeeded in introducing into the body the specific substances (their amboceptors). Very careful investigations proved that at no time and in no case could any bacteria be found within the tissues. Microscopically and culturally the result was always negative. Thus it appears that the bacteria rubbed on the skin die in the most superficial layers of this organ. Since the substances stimulating the anti-body-formation are contained in their dead bodies, they must become liberated in those layers and are resorbed in the lymph spaces. The great resorptive power of the skin facilitates this process. That this explanation is correct, Kasten demonstrates by the observation that dead bacilli, too, applied in the same way bring about the same result. The degree of agglutinative power was even higher than that in cases where living bacilli were used, while for the bactericidal substances the opposite relation obtained.

The Production and Nature of Streptocolysin.—G. T. BUEDIGER (*Journal Amer. Med. Ass.*, October 17, 1903).—The author calls with this name a substance that is found in the filtrates of virulent cultures of streptococci made in a mixture of human and of rabbit serum. Why this name is used and not the correct one, streptococcolysin, is not explained; the word selected by the author is a barbarism. This substance hemolyses blood-corpuscles of various animals and of man; it is inactivated by heating to 70° C. for two hours. Its character is not that of a complex hemolysin, but is said to be analogous to the tetanus and diphtheria toxin! The experiments adduced to confirm this assertion will be hardly sufficient as proof. If this should be the case, the production of antitoxin would have been possible. Altogether it seems that this hemolytic substance will prove to be one of those well-known bacterial hemolysins, that in other bacteria have been found and studied with a totally different result about their character.

About the Origin of Pulmonary Tuberculosis and the Fight Against Tuberculosis.—E. v. BEHRING (*Deutsch. Medic. Wochenschr.*, No. 39, 1903).—This paper, read before the naturalists' convention at Cassel, is an inspiring contribu-

tion to the subject of tuberculosis, and its positive and apodictic language insinuates itself to the reader to the degree that on many sides absolute allegiance to the author's position will be sworn. It cannot be denied that if all of Behring's assertions prove to be true, we will have to remodel our conceptions altogether about the origin of pulmonary tuberculosis. That means, if they are true! Unfortunately, in many respects the positive opinions of Behring are based on questions that so far cannot be considered as solved and around which just now a very active battle is waging. There is nothing in this paper that would even hint at the fact that the author is in possession of material fully proving his theory.

First of all, and this is the main issue, Behring accepts openly the identity of bovine and human tuberculosis. Although the general trend of thought, as we well know, favors this conception, we must certainly admit that so far no single absolute proof for its truth exists, and, impartially judging, we must declare that so far nothing has been brought out of a convincing nature contradicting the position taken by Koch some years ago. Even if single cases should become known opposing Koch's views, they could be only considered as exceptions confirming the rule, in view of the universal dissemination of typical human tuberculosis. The open acceptation of this axiom (for nothing else it is) is the first point that invalidates the argumentation of Behring.

Aside from this opposing view, Behring accepts the great importance of tuberculin for diagnostic purposes and accepts the results obtained by its administration in determining the absolute dissemination of tuberculosis infection as final. As to the origin of the infection, we touch the pivoting part of the paper. Its essence can be expressed in the sentence that "the milk (breast and cow's) fed to babies is the main source of infection." It is today almost ridiculous to remind one that the idea of the appearance of an open tuberculosis being a recent infection has long since been abandoned; although we listen to the story of the patient of an acquisition of a cold or grippe we pay little attention to it. Autopsy work has uniformly shown that there is hardly a single human being living that does not carry within him a focus of tuberculosis; the percentages are lowest in the very youngest individuals, but become almost uniformly high as the age of puberty is attained. Infants less than a year old give a very low percentage, and it is hardly conceivable that tubercle bacilli should exist in them, without causing macroscopical or microscopical lesions, the more so since we know that infantile tissues when infected before or very shortly after birth allow the typical changes of tuberculous infection to occur with tremendous energy and distinctness.

Behring bases his assertion on certain differences in the histologic structure of the lining membrane of the intestinal tract of infants and of older humans, which really exists and can be demonstrated microscopically and biologically. It is Behring's merit to have called attention to this fact and thus to have explained why babies nursing the milk of immunized mothers are themselves immunized, the antitoxin being present in their blood. This factor has lately been receiving extensive attention in regard to the difference of natural and artificial feeding, it being established that a new-born infant takes up the mother's proteids without enzymotic disintegration, because they are homologous to it, while the bovine proteids have to be assimilated by fermentative processes, being heterologous. At the same time Behring has demonstrated that in the same way as proteid-molecles pass the mucous membrane directly, bacteria also penetrate, and has proved this by feeding the micro-organisms to new-born animals. This is very important, but the fact remains that in infants up to one year tuberculous lesions are only rarely found, certainly more rarely than would correspond to the later percentage of tuberculous infection. As already said, it is impossible to imagine that tubercle bacilli could lodge for a year or more in some tissue without evidencing their pathogenic character. But it might be possible!

The picture drawn by Behring of this infant-infection receives, however, a marring, if we remember that the peculiar structure of the mucosa of the digestive tract persists only for a short time, in very small animals, perhaps three weeks, in infants certainly not longer than a very few months. Six months babies show a mucosa not differing histologically from that of the adult, and the direct proof for the physiologic alteration is given by the observation that one week guinea-pigs, having nursed a mother not immunized, will not show antitoxin in their blood when put into the care of an immunized animal. With regard to tuberculosis in the human race, the infection therefore ought to occur always in almost every individual during the first or second month of life, which is a thing that is hard to believe. Certainly the proofs for this teaching have not yet been furnished. Of course this consideration does not detract from the importance of the truth that the real infection occurs most likely in the majority of cases very early in life, and only later under especial conditions (the acquired disposition of Behring), makes itself felt. But to assume that such an event is absolutely the law for the origin of pulmonary tuberculosis seems very unlikely. The question, whether an inhalation (primary) tuberculosis can be proven, may be set aside here. But that primary infection in later life can occur and does occur frequently is not to be doubted. Behring himself ought to have stated this, as the fresh infection is typically and energetically demonstrated in every herd of normal milk cows to which a tuberculous companion is added. With the general dissemination of tuberculous infection in human beings, such a proof could never be conclusive, a defect in the reasoning which must expressly be stated.

Behring sees a bright future for the immunization of infants by the administration of milk of immunized animals. In the first place, we know too little of tuberculosis-antitoxins, and even Behring's experiments on calves cannot be considered as final, to build hopes on this possibility. In the second place, such a protection could only be effective during the very first weeks of life, the time when everybody ought to strive to furnish the young its natural food. Behring only shortly deals with the subject of vaccination, but it is sure that a real relief will only be obtained by it, and everything that lately has developed points in this direction.

Behring's paper bristles with numberless interesting ideas on other sides of the tuberculosis question and will certainly give a great impulse to further investigations. To be accepted in its general foundation as the course that this investigation necessarily will have to take seems not to be justified as yet, on the ground of insufficient scientific evidence for this foundation.

GYNECOLOGY AND OBSTETRICS.

IN CHARGE OF

HUGO EHRENFEST, M. D.

Incarceration of Portions of the Omentum in the Uterine Cavity after Perforations with the Curette. Remarks on the Prevention and Treatment of Such Perforations.—OTTO KUESTNER (*Monatsschr. f. Geburtsh. u. Gyn.*, August, 1903).—CASE 1.—Patient thirty-seven years of age. Nine full term confinements, several abortions. One curettment six, another two years ago. At the time of the second curettment, she observed that the operator became very nervous about some incident, but she could not ascertain the cause of his alarm. Uninterrupted recovery. Ever since irregular hemorrhages, of late very profuse. With the uterine sound irregular prominences are felt in the uterine cavity. Vaginal hysterectomy advised. During operation a very firm adhesion of the

omentum to the fundus uteri was found. Opened, the uterine cavity was found filled with fat tissue, being in direct connection with the point of the surface where the adhesion was separated.

CASE 2.—On July 24, 1901, vaginofixation for retroflexion of the uterus successfully performed. Latter part of 1901 curettment is performed by country physician for irregular menstruation. January 23, 1903, the writer was again consulted for irregular hemorrhages. Curettment advised.

Microscopical examination of the scrapings shows edometrium intermixed with typical fat tissue. The author, having in mind the first case, assumes perforation of the uterus at the first curettment with prolapse of the omentum into the uterine cavity, and, therefore, recommends vaginal extirpation of the uterus.

The operation proved the wisdom of his diagnosis.

Perforation of the uterus can with certainty be avoided, if the uterus is appropriately dilated, so that no force is necessary for the introduction of the curette, if Roux's curette is used, and if the length of the uterine cavity is measured before the curette is introduced. A strict observance of these rules is indispensable in cases of puerperal or carcinomatous uterus, or if there is any suspicion that at the time of a previous curettment the uterine wall was grossly injured.

Perforations of the uterus by means of sounds and curettes are certainly rather common. The outcome of the accident is mainly dependent upon the asepsis of the operator. Sometimes the hemorrhage may be very severe and require operative interference.

Hard and fast rules for the treatment cannot be laid down. The writer suggests, however, immediate vaginal hysterectomy in all cases of carcinomatous uteri, on account of the eminent danger of septic infection of the peritoneal cavity, and in probably aseptic cases, vaginal celiotomy (anterior colpotomy) and suture of the opening with catgut.

One Thousand Cases in Students' Outdoor Obstetric Practice.—JOHN P. WINN (*Jl. Am. Med. Ass.*, October 3, 1903).—This article proves convincingly the great benefit derived from conservatism in obstetrical practice. In one thousand cases of labor the forceps was used in but twenty-six instances; an extremely low figure, if one considers that all these cases were attended in outdoor service. The exceedingly favorable result of the work (four cases of septic infection, five deaths in all) is due to a careful asepsis as regards the hands of the students and the instruments, and to the writer's emphatic warning to the students against unindicated operative interference. Neither *ante partum* nor *post partum* douches were employed.

Intractable Vomiting During Pregnancy.—F. LA TORRE (*La Clinica Ostetrica;* rev. *Jl. of Obstetr. of Brit. Emp.*, September, 1903).—The writer believes that the condition depends upon a lesion of the cervix uteri, and by a reflex action sets up a gastric disturbance. Clinically he divides the vomiting of pregnancy into three stages: (1.) a period beginning at about the end of the first month, characterized by greater or less matutinal nausea, with some loss of flesh if the vomiting be excessive; (2) in the second period the circulation becomes disturbed, and emaciation rapidly occurs, emesis is practically continuous, there is revulsion of food, the tongue is dry and rose-colored and there is a progressive loss of strength; (3) in the third, serious phenomena supervene, and there may be delirium and coma. In this stage the emesis may diminish, and the dislike to food may disappear. Death is usually ushered in by coma.

For treatment the writer employs local and general means. No food or medicine should be given by the mouth. Nourishment should be administered

per rectum, ice should be applied over the spine, and if the nervous manifestations be acute, chloral or morphia should be given. As a local remedy the author strongly recommends tampons of 20 per cent. ichthyol in glycerine to be applied to the cervix uteri. This acts as an emollient, as an antiseptic, as an analgesic, and by its hygroscopic action the glycerine removes from the tissues of the cervix a large quantity of fluid, thus lessening the pressure and irritation of the uterine nerves.

Successful Removal of a Cystic Fibro-Myoma of the Uterus Weighing Eighty-Seven Pounds.—J. CLARENCE WEBSTER (*Jl. of Obstetr. of Brit. Emp.*, August, 1903).—The following points from the history of this remarkable case are noteworthy: Patient was forty-one years old. The tumor had grown to its immense size within ten years. After menstruation the patient has frequently observed some diminution in the size of the swelling and some relief as regards her discomfort. There has been no appreciable change in her general nutrition. Menstruation became profuse only recently. There has never been any dysmenorrhea. She was never pregnant. At the time of the operation the greatest girth of the abdomen was found to be exactly five feet.

The operation lasted two hours and a half. During the first hour no anesthetic was used except the Schleich mixture for infiltration of the skin. During the remaining one hour and a half only six drams of chloroform were employed. After the operation the patient's pulse was 74. She made a normal recovery.

The tumor was a multilocular cystic fibroid uterus, weighing eighty-seven pounds. At the time of operation the weight of this tumor was just about that of the rest of the patient.

The occurrence of such a large uterine tumor is very rare; successful removal much more rare. There are hardly a dozen cases recorded in literature in which the tumor weighed more than seventy-five pounds.

In the writer's opinion the success in this case is due to the following facts: To careful preparation of the patient prior to the operation, to heat applied to her body during operation by means of an electric pad, to the slight loss of blood and to the small amount of anesthetic administered. The article closes with a strong plea for a more extensive use of the Schleich infiltration anesthesia in abdominal work.

PEDIATRICS.

IN CHARGE OF

ALFRED FRIEDLANDER, M. D.

Congenital Gastric Spasm.—WEST (*Archives of Pediatrics*, October, 1903) after reviewing the literature on congenital pyloric stenosis, finds that two classes of cases are described. In a very few cases there has been found, post-mortem, hyperplasia of the epithelium, increase of connective tissue in the submucous and of fibrous tissue in the muscular coat, in addition to hypertrophy of both the longitudinal and circular muscular layers. The presence of the abnormal tissue sooner or later causes a true stenosis.

In the other more numerous class there is found only hypertrophy of the circular muscular layer, the stenosis which undoubtedly exists being due almost entirely to spasm of the hypertrophied muscle. This latter class should be designated by the title congenital spasm.

Clinically, both types present similar symptoms and both may have a palpable tumor, gastric peristalsis and dilatation. A few cases of spasm have been

relieved by careful diet treatment, but it is not to be expected that true stenosis can be relieved except by surgical intervention. It would seem best, therefore, that all cases should be operated on if a palpable tumor presents.

The details of a case of the second class with typical autopsy findings are appended.

Physiological Limits of Hemoglobin and Number of Blood Corpuscles in Childhood.—As a result of the careful study of the blood from 155 healthy and thirty-one sick children, using the usual methods of examination, Anna Perlin (*Jahrbuch fuer Kinderheilk.*, September, 1903) comes to the following conclusions:

The hemoglobin content is highest in the first three days of life, 116-119 per cent. From the fourth day on there is a steady decline, so that the minimum is reached at the end of the first year, 58-78 per cent. From the second year the hemoglobin begins to rise steadily (not falling below 70 per cent. after the fourth year), to the fifteenth or sixteenth year (74-88 per cent).

The red blood count is highest in the first week (5,280,000–7,550,000), and begins to fall by the eleventh day. At the end of the first year it reaches its minimum (4,200,000-5,300,000). Then it rises gradually to the fourth year (4,750,000–5,600,000), remaining about stationary to the eighth year. Then a gradual rise takes place to the sixteenth year (4,800,000-6,000,000).

The white blood count is highest in the first two days (15,800-19,000). It sinks gradually to the fourth year (8,240-13,400), remains about stationary to the eighth year, and then falls until the sixteenth year (7,000-9,220).

In the sixteenth year the hemoglobin and the red and white counts seem to approximate the adult form.

Prophylactic Use of Diphtheria Antitoxin in School Children.—Calle (*Archives of Pediatrics*, October, 1903) advocates an immunizing injection of antitoxin once or twice during the school year—for instance, in November and February—with the hope of preventing infection with primary diphtheria and croup, and furthermore with the hope of lessening the mortality of the severe forms of scarlet and measles complicated by diphtheria. It is well known that the cases of scarlet complicated by diphtheria from the beginning are often very grave. So, too, the cases of measles complicated with diphtheric croup show a very high mortality.

The author believes that the mortality from these mixed infections could thus be markedly reduced. In his experience the plan has proved perfectly feasible, and would be of great value for communities in which diphtheria is endemic or epidemic.

Scarlet Fever.—Baum (*Journal American Medical Ass'n*, October 10, 1903) summarizes the hospital cases of scarlet seen by him during the years 1896-1903. There were 628 cases, 307 males, 321 females, with 44 deaths (7.07 per cent.). Of the complications, suppurative otitis media occurred 11 times, nephritis 47, pneumonia 19, arthritis 2. In 35 per cent. of all cases there was some pain in the ear. Albumen was present in 37 per cent. of all cases during the early stages, though only 7.6 per cent. showed true nephritis. In three cases there was present at the beginning, or on the second day of the eruption, a septic nephritis, with much albumen and many casts. These cases were all fatal.

Most of the nineteen pneumonias involved the upper lobes; bronchitis, with broncho-pneumonia at times, was present in nearly all severe cases.

Two cases showed severe arthritis; in twenty-one other cases there was slight joint swelling unaccompanied by other symptoms.

There were 142 cases of mixed infection (22.7 per cent). In the mixed infection the mortality was 11.9 per cent.

Of these mixed infections ninety-six were cases of diphtheria, though in many cases the diphtheria appeared as a secondary infection during early convalescence.

There were twenty-nine cases of complicating measles, thirteen of varicella, three of parotitis and one of diphtheria and measles.

Concerning diagnosis, the author says that drug eruptions, as caused by belladonna, quinine, copaiba, chloral and opium, as well as toxic erythemata, must be considered. A point of diagnostic importance in this connection is that the glandular swellings, characteristic of scarlet, are missing. The drug eruptions may, however, be accompanied by fever. Cases of rubella are at times mistaken for scarlet, but in this condition the rash is always measly, never confluent.

After reviewing the literature concerning the specific etiological factor of scarlet, Baum concludes that no definite proof has yet been brought forward that any one of the organisms is the actual cause of scarlet.

(In the discussion which followed the reading of this paper, Schamberg called attention to a point of diagnostic value concerning the desquamation. In scarlet there is a tendency for the desquamation of the epidermis to split just beneath the free border of the nails, the epidermis then peeling off down the finger and exposing the pink skin beneath. This usually occurs on the tenth–fourteenth day. He called special attention to the difficulty (and prophylactic importance) of recognizing the mild or typical cases.

Weiss stated that in mild cases he has noticed a rash in and below the inguinal folds, below Poupart's ligament, having a burnished aspect. He thinks that this sign may be important.)

Acute Serous Meningitis in Childhood.—Beck (*Jahrbuch fuer Kinderheilk.*, September, 1903) reviews the literature on this subject and reports five additional cases. This condition, which has only been recognized as a clinical entity in recent years, is comparatively rare. It is a serous inflammation of the pia mater, as a result of which there ensues an inflammatory edema in the subarachnoid spaces or in the ventricles.

Two forms are recognized: M. serosa externa, in which the brain and pia are the seat of the serous inflammatory edema, and M. serosa interna, in which the ventricles are chiefly involved (hydrocephalus acutus).

The symptoms of the condition are not always definitely marked, and the differential diagnosis between it and suppurative or tubercular meningitis, at times impossible.

The onset is often gradual, with malaise, anorexia and digestive disturbances. The temperature is usually not particularly high, the pulse somewhat rapid and irregular.

Increase in the circumference of the head is a constant and marked symptom. The sutures are widened and the fontanelles stretched. Cerebral symptoms, dullness, restlessness, strabismus and nystagmus are almost the rule. Optic neuritis usually sets in early.

The course of disease is usually protracted, with, at times, remissions followed by exacerbation of symptoms, although very often the fever does *not* persist.

Lumbar puncture in these cases shows a clear fluid, of low specific gravity, containing little albumen. Except for a few blood cells, it contains no morphological elements, no bacteria.

The specific etiological factor of this disease has not been absolutely determined. The author believes that serous meningitis is always bacterial and caused by definite organisms, though these cannot always be demonstrated. (Quincke denies the bacterial origin of M. serosa altogether.) The author does not agree that because the bactera cannot be demonstrated, the disease cannot be of bac-

terial origin. It is conceivable (and according to him probable), that after infection there occurs a process of bacteriolysis, so that only the bacterial toxins circulate in the blood.

ORTHOPEDICS.

IN CHARGE OF

MALVERN B. CLOPTON, M. D.

Double Congenital Dislocation of the Hip.—M. FROELICH (*Revue d'Orthopedie*, September, 1903).—Subtrochanteric oblique osteotomy, Kirmisson's operation, was performed in two cases. One, a child nine years old, with marked lordosis and adduction so that the knees crossed; walking was practically impossible. The second case, seven years old, had one side anchylosed and walking was impossible. The adductors on one side were divided subcutaneously, and the subtrochanteric osteotomy performed, when the upper end of the lower fragment was allowed to slip in between the trochanter and acetabulum. There was some extension used while the leg was fixed, abducted in a plaster cast. In both cases the second operation came two months after the one side had been fixed. The result in both cases was excellent. The lordosis was corrected, the length of the limbs only slightly altered, and locomotion was excellent. A third case, a girl seventeen years old, is added by the editor; operated similarly nine months before, with satisfactory results.

Congenital Luxation of the Ankle.—A. H. FREIBERG (*Annals of Surgery*, October, 1903).—Only one ankle was deformed, and the child, which was two years old, was able to walk, but complained of pain after use. The external malleolus was wanting, and there was a convex curve outward in both bones, making the articular surface of the tibia oblique. The foot was normal. No disease of bones was present, and the condition was thought to be due to the pressure of a too narrow amnion.

The Handling of Certain Chronic Joint Affections.—MAX SCHUELLER (*Die Med. Woch.*, 1903, No. 30).—The tubercular, syphilitic and neuropathic joints are not considered, but he takes up the treatment of the joints, which he groups into three classes: (1) Chronic rheumatism, the chronic form of the acute rheumatism, a synovitis with definite symptoms, but not corresponding to either of the following: (2) Arthritis deformans, with depositing of lime salts: later deformity, with changes in the cartilage and bone. (3) The fringe-producing polyarthritis or synovitis chronica villosa, in which the bones and cartilages are not changed, but the synovial membrane produces large or small swellings caused by a bacillus discovered by the author. Diet, massage, baths, etc., are recommended for all forms in the beginning. For the synovitis chronica villosa, operation is recommended if the symptoms are severe and the patient is young enough. Out of 220 cases he operated 22 times; 16 times on the knee, and 7 of the patients were between four and fifteen years. The joint is opened freely, the tags cut off, and the cavity swabbed with guaiacol-iodoform glycerin emulsion (1:5:100), and the wound closed. On the tenth day massage is begun. After three or four weeks the joint is used. If not so severe a condition exists, the guaiacol-iodoform glycerin emulsion is injected into the joint, and the synovial fringes are said to shrink. One injection of from one to five grammes is sufficient, but it may be repeated after five or six days. The joint is not used for several days after the injection.

Cause and Treatment of Hammer-Toe.—A. PERASS (*Brit. Med. Jour.*, August 29, 1903).—This deformity is thought to be caused by a paralytic contracture due to some cortical lesion, as evinced by the usual bilateral arrangement; also borne out by two of his cases in which the condition began in infancy and was accompanied by a distinct stammer. The operation advised is a modification of Terrier's. On the convexity of the toe he makes a semi-lunar incision and turns back a cutaneo-tendinous flap, incises the capsule and lateral ligaments of the joint between the first and second phalanges, isolates the first phalanx, and cuts off a sufficient portion of the head. He then cuts the flexor tendon through its insertion and turns back the tendon between the phalanges, and sutures it to the flexor tendon, thus creating an equilibrium between antagonistic muscles. Callosities are removed and the wound sutured.

Congenital Elevation of the Scapula.—ALBERT MOUCHET and P. CLEMENT.—The literature is reviewed and the 62 cases (8 bilateral, 54 unilateral) are the basis of the observations. The division into simple elevation, elevation with rotation of the lower angle inward, and elevation with changes in form of the scapula and extra bone formations, is accepted, but Sprengel's theory of uterine compression is not credited as much as Guerin's theory of arrested development. The operative treatment is only employed in those cases where there is a bony change, either an exostosis of the superior angle or the osseous prolongation of the superior angle which articulates with the spine, or when, for an esthetic reason, the whole bone is lowered on the chest. Ordinarily, massage and gymnastics are sufficient for functional cure, either with or without a corset that holds the scapula in place. Subcutaneous myotomy is discouraged, as the condition is too complex for relief from small measures, and if operation is attempted it is advised to make the Zucker-Kandl incision along the upper edge of the scapula, divide the trapezius, remove the supero-internal angle with rongeur forceps, slide the scapula downward on chest, and put up in plaster with the arm elevated to 180°. After operation is healed, begin gymnastics.

NEUROLOGY.

IN CHARGE OF

SIDNEY I. SCHWAB, M. D.

Chorea and Graves' Disease.—SUTHERLAND (*Brain*, Summer, 1903).—The nature of the association between chorea and Graves' disease is still under discussion. All are agreed that movements of a choreiform type are sometimes manifested in Graves' disease. Two cases in which Graves' disease followed chorea are described. In the first patient the effects of the prolonged attack of chorea had never quite passed off and palpation and trembling existed for some time before the cardinal symptoms of Graves' disease became very marked. The theory is advanced that in as much as the pathology of this condition is as yet entirely unknown, it is possible that they depend upon a somewhat similar affection of the central nervous system and that in childhood they produce the symptoms of chorea, while in early adult life it is manifested by the group of symptoms known as Graves' disease. Clinically they present many similarities. There is in both an inherited neuropathic tendency. In many cases there is a history of rheumatism and heart disease. The immediate attack in both is frequently some sudden shock to the nervous system, such as fright, disappointment, emotional experience.

The Use of Wet Packs in the Treatment of Psychoses.—KNECHT (*Psych-Neurologische Wochenschrift*, No. 22, 1903).—Attention is called to the use of the wet pack in certain psychoses accompanied by states of excitement. The author believes that this form of treatment has not received the attention it merits. The pack is prepared in the following way. It takes, in the hands of an experienced nurse, only two minutes: A double woolen blanket is placed upon the bed. A sheet wrung out in cold water is placed over this. The patient lies upon this sheet which is folded around him, leaving the feet and arms uncovered. The sheet is folded around the legs so that there is no part of the skin uncovered. A second sheet is wrapped about so that the arms and shoulders are covered. The woolen blanket is now folded and pinned together. The patient is allowed to remain in the pack about two hours, he is then dried and allowed to sleep. This treatment is found to be of value in all sorts of maniacal conditions accompanied by motor unrest in chronic alcoholism with neuritic symptoms. A high grade of arterio-sclerosis and uncompensated heart lesions are contraindications to this form of treatment.

The Sign of the Orbicularis in Peripheral Facial Paralysis.—DR. GEORGE W. JACOBY (*The Jour. of Nerv. and Men. Dis.*, October, 1903).—There has always been a divergence of views as to the course of the central neurones of the facial apparatus. All of our knowledge has been derived from anatomical and experimental observations. Clinical study has failed to cast any material light upon the subject, because all deductions from clinical observation were dependent upon the assumption that in facial paralysis, due to central affection, the temporofacial branch of the facial nerve was not involved, and that in ordinary hemiplegia the upper part of the face entirely escapes being paralyzed. More recent clinical observations have, however, shown that the assumption of non-involvement of the upper facial in hemiplegia is a mistake. The recognization of this long-dominant error is due in great part to the sign of the orbicularis. This name was first suggested by Revilliod to describe a symptom which consists in the inability of a hemiplegic voluntarily to close the eye upon the paralyzed side except in conjunction with the other eye. A number of typical cases are described by the author, and upon them the following conclusions are based:

CONCLUSIONS.

1. The statement of Bard, that the sign is invariably lacking in peripheral facial paralysis, and is, therefore, a distinguishing mark of central affection, is incorrect.
2. The presence of the sign in peripheral paralysis is further proof of the existence of commissural fibers between the nuclei of the seventh nerve.
3. This sign is of clinical value in so far as its presence in peripheral paralysis shows that complete recovery has not yet occurred.
4. The secondary overaction in the orbicularis palpebrarum, which is late in appearance and always coincides with some recovery in power, does not occur in those cases in which the sign, having been present, has passed away.

The Abductor Reflex.—SCHULLER (*Neurologisches Centralblatte*, No. 20, 1903).—In cases of increased reflex activity there is to be seen a typical reflex obtained by tapping the external condyle of the femur. This is followed by a contraction of the pensor fascia lata and the gluteus, and sometimes by a contraction of the most anterior portion of the gluteus maximus. The reflex is best obtained when the patient lies on his side and one examining hand is placed between the trochanter major and the ilium. Now, if the external condyle is tapped the contraction of the above muscles can easily be felt. The center of this reflex lies probably in the territory of the 4th and 5th lumbar and the 1st sacral segment. The centrifugal path of the same is in the superior and inferior gluteal.

A Contribution to Our Knowledge of the Course of the Lymph Stream in the Spinal Roots and Cord.—David Orr, M. D. (*Review of Neurology and Psychiatry*, October, 1903).—The following is a resume of a case upon which the conclusions of this article are based: A woman, aged thirty-one. She came to the hospital in a very excited condition, which condition existed with an occasional relapse for three months. In the fourth month a small abscess developed in the right axilla with enlarged glands around. There was at this time much atrophy of the body muscles generally. A specimen of blood was examined and typical colonies of the staphylococcus pyogenes aureus were cultivated. After a period of apathy with a temperature of 102 degrees she died. At the autopsy there were found infarcts in both lungs and abscess in the right kidney and in the central nervous system there was unusual pallor of the gray matter. Around the trunks of the brachial plexus there was a moderate quantity of pus.

CONCLUSIONS.

1. Although bacteria have little tendency to spread along the nerves, their toxins can be carried in the lymph stream and exert their influence some distance from their source of origin.

2. In the spinal roots the flow of lymph is upwards towards the cord.

3. Of the lymph flowing up the posterior roots, the greater part passes into the posterior columns, while a small quantity flows into the lymphatic spaces of the pia-arachnoid covering the posterior and lateral regions of the cord.

4. Where the fibers entered the cord, at which point their sheath and neurilemma are lost, they are specially vulnerable to the influence of toxins in the lymphatic system of the roots and meninges. This applies to both sensory and motor nerves. The last two conclusions are important in view of the recent opinion expressed by Marie and Guillain on the etiology of tabes, viz., that this disease is due to a lesion—probably syphilitic—of lymphatic system constituted by the posterior roots, pia and cord.

5. The course of the lymph stream in the posterior columns is ascending.

6. The lymphatic system of the posterior columns does not communicate with that of the lateral columns.

GENITO-URINARY SURGERY

IN CHARGE OF

H. McC. Johnson, M. D.

Calculous Anuria: Its Diagnosis and Treatment.— Cabot (*Ann. Surg.*, October, 1903).—In this article Cabot treats most excellently of the various phases of calculous anuria, the reported cases, methods of diagnosis, treatment, etc., and reports two very interesting cases in which there was complete stoppage of the urine by ureteral calculi, which were made to pass into the bladder by opening the kidney and manipulating (stripping) the ureter. The stones were later removed from the bladder with the Bigelow evacuator. The author suggests external manipulations early in the attack to assist the stone along the ureter, and this may occasionally bring about a cure. It is interesting that in case 1, where subsequent to operation a stone became lodged in the ureter, it was forced on to the bladder by external manipulation.

A New Method of Performing Perineal Section Without a Guide.—GIBSON (*Ann. Surg.*, October, 1903).—By experimentation upon the cadaver it was found that sharp traction on the prostate made the deep urethra taut to a degree that renders its recognition unmistakable and gives one an immediate and absolute control of the situation. The traction is exerted downward and somewhat backward.

The author gives the following technique: Lithotomy position. Thorough preliminary irrigation and cleansing of the rectum. A suitable speculum, preferably Kelly's, is introduced and the prostate is *transfixed* laterally from the rectum, preferably by a large sharp hook, which is driven firmly through the prostatic tissue. The speculum is now withdrawn, leaving the hook *in situ*. Median perineal section is then performed, the incision being extended down to the ordinary depth of the situation of the urethra. The left forefinger is now introduced into the wound. As the assistant executes a series of gentle tugs on the hook, one readily receives the sensation of the intermittent tension of the urethra in response to the traction on the prostate. Keeping the forefinger in place, the surgeon directs his bistoury into that portion of the deep urethra which is thus rendered prominent; the probe pointed director readily glides along the knife into the lumen of the urethra, and following it the small metal catheter will demonstrate the successful access to the bladder. The performance of these various steps requires only a minute or two. This procedure is not recommended as a routine practice, but is of service in special cases. The danger of infection of the prostate from it is counterbalanced by its usefulness, in some cases.

Treatment of Gonorrheal Urethritis by Ichthargan.—RYCHNER (*Ann. des Mal. des Org. Genito-Urin.*).—A study of the use of ichthargan in gonorrheal urethritis was undertaken by the author, who, in summing up his cases, says that it is a good antiblennorrhagic agent, but in nowise takes the place of the time-honored remedies.

Sterility from Obstruction at the Epididymis Cured by Operative Means.—MARTIN (*N. Y. and Phil. Med. J.*; October 10, 1903).—Having demonstrated upon dogs that the operation was feasible, the author performed it upon a suitable azoospermic man. This is the operation: Under ether the vas of the left side was freed at about the level of the top of the testis, and by means of a sharp-pointed pair of scissors, a slender bistoury, and a grooved director, such as are used by ophthalmologists, its lumen was opened by a longitudinal cut a quarter of an inch long. The epididymis was then approached from the outer side, and its entire length was exposed. An incision into the tail failed to show the presence of a milky fluid, though cover-glass preparations subsequently examined demonstrated a few spermatozoids in the expressed fluid. A portion of the head was then picked up in a toothed forceps and excised. A few minute, whitish drops at once appeared on the resulting cut surface, made up in the main of spermatozoids, some of which, when examined fifteen minutes later, were motile. Into the wound of the epididymis the vas was implanted by means of fine silver wire sutures carried on small face-needles from the outer surface of the vas into its lumen; thence from the cut surface of the opening made into the epididymis through its fibrous tunic. A suture was placed at either end of the vas incision, and the latter was held open by two other sutures, one to either side. The skin was closed by catgut. The dressing slipped the next day, exposing the wound, which became infected and suppurated superficially. Semen, twelve hours old, sent for examination eighteen days later, showed the presence of spermatozoids; not so plentiful as usual, but very actively motile.

Sixteen days after the operation the patient resumed marital relations, and two hundred and eighty-one days later his wife was delivered of a normal girl baby, exhibiting an almost ludicrous resemblance to her father.

Edebohls' Operation of Decapsulation of the Kidney for the Cure of Chronic Bright's Disease, and the Indications for its Performance.—Tyson (*N. Y. and Phil. Med. J.*, October 10, 1903.)—After reviewing the work done by Reginald Harrison and the publications of Edebohls in this line, Tyson reports his experience in one case. This case had general anasarca with ascites, albuminuria and casts. The edema was extreme. Medical treatment not only failed to benefit her, but left her so weak that it was thought unwise to operate on both kidneys at once, and accordingly at the first operation only the right kidney was decapsulated. In the first twenty-four hours after the operation the quantity of urine secreted was only twenty-one and one-half ounces, but in the second twenty-four hours it reached forty-two and one-half; in the third, seventy-two and one-half; in the fourth, one hundred and two; in the fifth, sixty-three ounces, and in the sixth, sixty ounces. In ten days after the operation ascites and anasarca had entirely disappeared, and remained so. Two months after the first operation the left kidney was decapsulated. After this operation the albumen and casts decreased in quantity somewhat and the patient later looked the picture of health. While it cannot be said that there has been a cure, and it is impossible to say that there will be, yet there can be no doubt the patient's life has been saved, and apart from the urinary evidence, she is seemingly in perfect health. Six months later she had one-third volume albumen and a few hyaline casts in the urine, and was the picture of health.

Some very interesting explanations are given by Tyson which lead him to believe that the benefit in those cases comes from the relief of renal tension, as suggested by Harrison. The author is satisfied that the operation is a serviceable one, and that many lives may be saved and prolonged, and even cures obtained by its judicious application. He regards parenchymatous nephritis more favorable for operation than interstitial, and is pessimistic about cases with extensive cardiovascular changes. The operation may be of value in idiopathic hematuria. Above all, let a competent kidney surgeon be the operator.

A Case of Diffuse Gonococcus Infection of the Entire Upper Extremity.—Powers (*Med. Rec.*, October 3, 1903.)—A man, twenty-eight years old, nine days after the onset of gonorrheal urethritis, developed pain and swelling about the right elbow. The swelling rapidly increased until the entire upper extremity was largely swollen. Six days from the beginning of the inflammation of the elbow, incisions made about it liberated clear fluid, with the exception of one incision just below the external condyle, where there was pus. The presence of gonococci were demonstrated. In spite of active treatment, two years later the following condition exists: The circumference of the limb at the middle of the arm and at the middle of the forearm is considerably less than on the opposite side. The shoulder-joint is free and useful. The elbow-joint is nearly fixed, it is at an angle a little within a right angle. Flexion and extension can be made over an arc of perhaps ten degrees. Pronation and supination of the forearm are nearly complete. There is a pretty good range of motion at the wrist-joint. The index finger is fairly useful. The other fingers are pretty stiff. Motion in the thumb is good. The thumb can be made to approximate the index finger very well and the middle finger quite well. The back of the hand is still a little puffy. There has been little or no improvement during the last few months. The general condition is excellent; the urethra has given no trouble.

The author dislikes the term "rheumatism" for these metastatic processes, and says septicemia expresses the condition better. A very complete resume of the literature is then given.

DERMATOLOGY AND SYPHILIS.

IN CHARGE OF

MARTIN F. ENGMAN, M. D.

Experiments Upon the Bacteriology and Serumtherapy of Syphilis.—CH. FOUQUET (*Gazette des Hopitaux*, October 10, 1903).—The bacteriology of syphilis comprises three grand divisions:

1. Researches into the pathologic agent in the production of syphilis in man.
2. Experiments upon the inoculation into animals.
3. The discovery of a preventative or curative serum—that is to say, serumtherapy.

The author goes over the voluminous literature but fails to comment decisively upon the numerous candidates brought forward as the pathologic factor in the causation of syphilis. He dwells upon the experiments of Roux and Metchnikoff, who inoculated a young female chimpanzee upon the mucous membrane of the vagina three times with syphilitic virus. This was followed by an ulcer which Fournier, Hallopeau and others pronounced a hard chancre. Afterwards the animal presented an eruption and other signs of syphilis. Has a reactive animal to syphilis then been found?

The question of serumtherapy is also *in statu quo*. In these serum experiments three principal methods have been employed:

1. The serum of animals naturally refractive to syphilis has been the first to be employed. Richet and Hericount experimented with the serum of dogs, Tammasoli with that of lambs, Kollmann, Istomanoff that of calves, Mueller Kamburg that of horses.

2. The immunity of animal serum has been, theoretically, re-enforced by injecting the animal with serum taken from a syphilitic subject. Although animals are refractory to syphilis, yet it may not be impossible that we may confer upon them an increased immunity by this procedure. Chickens are refractory to tetanus, yet after injecting into them a certain quantity of the culture of the bacillus of Nicolaur and their toxines, they produce a preventative and curative serum. G. Mazza injected the blood of syphilitics into animals. Gilbert and Fournier injected the blood of syphilitics into the skin, peritoneum and inserted syphilitic chancres into the cellular tissue.

3. Finally the the third method which seems to unite most of the partisans and to appeal to the greatest number consists in the employment of a serum or liquid made by the syphilitics themselves.

Pallizarri and Rochon injected the serum of syphilitics in the secondary or tertiary periods; Bonaduce experimented with the serum of newborn syphilitics; Piccardi the serum of pregnant syphilitics; Tammasoli and di Giovani injected the ascitic fluid of hepatic syphilis; Moore, the amniotic liquid of a syphilitic; Boeck the hydrocele fluid accompanied by a specific epididymitis.

Unfortunately all of these experiments have not produced the serum whose results will replace the classical mercury. These serums have given some results which can be attributed to their tonic and regenerative properties, etc., the effect of all serums. Mercury yet remains the specific for syphilis.

Some Remarks on the Pathological Action of the Roentgen Rays, with Special Reference to the Literature on the Subject.—J. M. H. MACLEOD (*Brit. Jour. Derm.*, October, 1903).—The author formulates from his survey of the literature the following tentative propositions as fairly representative of the present state of our knowledge of the subject:

(*a*) That the x-rays in small doses have a stimulating effect on the elements of the healthy skin.

(*b*) That large doses, by long exposures, close proximity of the tube to the skin, or the employment of soft tubes, the rays are capable of devitalizing the tissue elements, interfering with the process of reproduction and causing their degeneration; and that this power is the result of a direct specific action of the rays.

(*c*) That the more highly differentiated structures, such as the hair follicles, glands, nails and blood vessels, are more readily and severely affected by the rays than the less differentiated epidermal cells on the fibrous stroma of the cranium.

(*d*) That pathologically altered cells, whether of epiblastic or mesoblastic origin, are far less resistant to the rays than healthy cells, and are devitalized with small doses of the rays; and that this destructive action on diseased elements may be taking place while the healthy elements in the neighborhood, instead of having their vitality inhibited, may be stimulated to a process of repair.

(*e*) That the action of the rays is cumulative and that when the cellular degeneration reaches a certain degree the toxic products of the breaking-down cells are capable of setting up an inflammatory reaction which is a secondary phenomenon.

(*f*) This inflammatory reaction is peculiar in that it occurs in a tissue the vitality of whose various elements has already been impaired by the action of the rays, and in that it is associated with greater destructive changes than those produced by the actinic rays and is apt to lead to ulceration and necrosis, and is liable to be followed by an imperfect process of repair.

LARYNGOLOGY AND OTOLOGY.

IN CHARGE OF

WILLIAM E. SAUER, M. D.

On Anesthetizing the Upper-Air Passages in the Tuberculous.—POLLATSCHEK (*Die Therapie der Gegenwart*, September, 1903) states that the changes in the upper-air passages, especially those of the larynx, are very important factors in the course of pulmonary tuberculosis. He believes that the cause of the cough in fully 70 per cent. of the phthisical cases can be found in upper-air passages. Aside from the unpleasant conditions which result from an insufficiency of the nasal respiration, there are certain changes in the pharynx, such as pharyngitis sicca, granulosa and lateralis, which give rise to a feeling of foreign body, tickling and dryness in the throat, while the changes in the larynx, such as a catarrhal laryngitis, especially a posterior laryngitis, can give rise to an almost unbearable itching in that locality. The specific lesions are often very annoying and frequently interfere with the taking of nourishment. He also calls attention to the fact that we frequently find marked changes in the larynx when there are no subjective symptoms whatever.

For the past year Pollatschek has been experimenting with anesthesin for the relief of the above mentioned conditions. His results have been very satisfactory in all the cases (350). The following emulsion injected directly into the larynx or used as an inhalation gave the best results:

℞	Menthol	1.50
	Pulv. gummi arab	
	Ol. amygd. dulc	
	Aqua dest	*aa* 10.0
M. f. emulsio, adde:		
	Anasthesini	3.0–4.0–5.0
	Spirit vini conc	40.0
	Aqua dest	65.0

The anesthetic effect lasts from three to thirty hours and at times for several days. At no time did he notice any symptoms of intoxication.

The Importance of the Surgical Treatment of Chronic Middle-Ear Suppuration.—DENCH (*Medical News*, October 17, 1903).—In a very instructive paper, read before the New York Clinical Society, Dench discusses the importance of the surgical treatment of chronic middle-ear suppuration. He refers to the pathological records of Pitt which show that out of 9,000 consecutive autopsies held at Guy's Hospital, death was due to aural suppuration in 57 cases or one out of every 150, and those of Gruber, of Vienna, which show 232 deaths to be due to the same cause out of a total number of 40,073, or one in every 173. The author's own statistics show that out of 64,000 cases 218 had intracranial complications. The writer believes these figures to be fairly accurate and that not only the aural surgeon, but the general practitioner as well, should appreciate the grave menace to life which a purulent otitis causes, and to protect his patient in every instance, by the early institution of such measures as may completely eradicate the disease in question.

Detailed histories of several cases are given, illustrating the importance of surgical interference in these cases. A description of the radical operation as performed by the author with a report of his results is also given. Mention is made of the simpler surgical procedures and their comparative value. In conclusion, he states that: in all cases of persistent and profuse aural discharge the radical operation is the operation of election. In cases of recurrent aural discharge, associated with lesions of the upper-air tract, this tract should first be put in normal condition.

In cases of persistent but slight discharge from the ear, the operator may advise the removal of the ossicles, together with thorough curettage of the middle ear through the external auditory meatus. It should always be explained to the patient, however, that this operation is a tentative one, and that the more radical procedure may be necessary later.

Treatment of Certain Affections of the Upper-Respiratory Tract, Especially of Vaso-Motor Rhinitis, by Hot Air.—LARMOYEZ and MAHU (*Laryngoscope*, September, 1903).—At the International Congress of Medicine, August, 1900, the authors published a new treatment for certain affections of the upper-respiratory tract—in particular, vaso-motor rhinitis and hydrorrhœa nasalis, viz., the treatment by means of hot air. At the last Medical Congress at Madrid they report that this method of treatment has been tried by others and the results confirmed. The writers claim that they can now count in hundreds their cases of permanent cures of vaso-motor rhinitis of all degrees—from congestive rhinitis, with alternating obstruction, sometimes accompanied by tubo-tympanic catarrh, up to hypertrophic rhinitis and hydrorrhœa nasalis. At the present time they consider the hot-air treatment a specific for the last named disease. All obstructions, such as spurs, deflections, polypi or irreducible hypertrophy of the turbinals, must, of course, be first removed.

An Operation for Removing the Tonsils.—STEISS (*Medical Record*, October 3, 1903).—For the removal of tonsils in those cases in which a considerable portion of all of the tumor is enveloped in the pillars of the fauces, and in those cases in which adhesion bands pass from the pillars to the tonsils the tonsillotome is unsatisfactory. In these cases the author recommends the use of a hook-like knife modeled from the strabismus knife with a longer and stouter handle and with a knife edge on the concavity and the end of the hook. The patient being under a general anesthetic is placed on the side with the head somewhat lowered, the finger of the operator is passed over and around the lower tonsil to detect

any pulsating vessels, the tonsil is then seized with a volsellum and drawn toward the opposite side. The described hook-knife is then passed between the tonsil and the anterior pillar of the fauces just beneath the basement membrane of the tonsil, care being taken that it is not passed into the tonsil mass, but beneath this basement membrane. The finger of the operator is then introduced into the wound, and making sure that pulsating vessels cannot be felt and using the finger as a blunt dissector, the mass is turned out, thus having its attachment only to the posterior pillar and by mucous membrane only, which is divided by an ordinary blunt-pointed bistoury. Hemorrhage is free at first but ceases promptly. If any bleeding vessels are present they are seized with the forceps and treated as in any other locality. When removed it will be found that the base of the tonsil is covered by a thin membrane and that the dissection has been carried out entirely outside of the tonsil. Without turning the patient the other tonsil is removed in the same way.

Nasal Dysmenorrhea.—Opitz (*Berliner Klinische Wochenschrift*, September 14, 1903).—After discussing the elements of suggestion in the cocainization of the genital spots in the nose in cases of dysmenorrhea the author reports a case in detail in which the possibility of suggestion can be eliminated. The case was that of a young girl who had suffered intensely at her menstrual periods and after having her nose operated upon (removal of enlarged middle turbinates) for the relief of nasal stenosis, her mother called attention to the fact that she had noticed that since that operation had been performed the girl was entirely free from pain at her menstrual periods. A few months later the pains began to return again. An examination of the nose revealed that the stump of the middle turbinate was again pressing on the tuberculum septi. Further operative interference was refused.

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

The Bacteria Concerned in the Production of Eye Inflammations.—R. L. Randolph (*Jour. A. M. A.*, October 3, 1903).—Up to the present time there have not been found any bacteria pathogenic only for the eye, though the possibility of there being such bacteria is suggested when we think of sympathetic ophthalmia and trachoma. The bacteria of the eye belong exclusively to the group of parasites.

The *Micrococcus Epidermidis Albus* and the Xerosis bacillus are almost constantly found in the normal conjunctival sac. Under favorable conditions they may give rise to severe inflammations. The same is true of the colon bacillus, which is ordinarily innocuous. The "element of pathogenicity" is most marked in the diphtheria bacillus, gonococcus, Week's bacillus, pneumococcus, diplobacillus of Morax-Axenfeld, tubercle bacillus, streptococcus and *Staphylococcus Aureus*. The streptococcus may be wholly avirulent, or may produce an intense reaction, as in streptococcus diphtheria of the conjunctiva and in Parinaud's conjunctivitis. A "co-operative agency," often an abrasion or injury of the epithelioma, is necessary before the organisms are capable of doing harm. The absence of suppuration following penetrating wounds is due partly to the natural resistance of the eye, partly to the feeble pathogenic properties of bacteria normally resident in the conjunctival sac. However, ordinarily harmless bacteria may, under the favoring influence of lowered local resistance, become pathogenic by the mere fact of enormous multiplication.

The writer believes that the normal conjunctiva is capable of coping with its bacterial enemies, and suggests that certain bacteria may perform important functions in the life of the normal conjunctiva.

Unilateral Exophthalmus in Basedow's Disease.—J. BISTIS (*Arch. d'Ophtalm.*, July, 1903).—According to J. Terson, Basedow's disease may safely be assumed in the presence of bilateral exophthalmus associated with the signs of Stellwag and v. Graefe, despite the absence of tachycardia and thyroidal hypertrophy. In three cases reported by Bistis, exophthalmus was confined to one side, and there was no enlargement of the thyroid gland. In all three cases the diagnosis was based on tachycardia, the signs of v. Graefe and Stellwag and the exclusion of local conditions in the orbit as the possible cause of the exophthalmus. The writer concludes that the presence of the three cardinal symptoms, bilateral exophthalmus, tachycardia and thyroidal hypertrophy, is not essential to the diagnosis. Unilateral exophthalmus may be an early symptom, and as such is important from the standpoint of early treatment.

Tumors of the Conjunctiva.—E. A. SHUMWAY (*Journal A. M. A.*, Sept. 26. 1903).—Tumors of the conjunctiva are infrequent but of great variety. The malignant growths are represented by carcinoma and sarcoma, which are clinically often indistinguishable. They occur in patients over forty, and usually at the corneo-scleral limbus. Carcinoma originates from true papillae arising from the conjunctiva surrounding the limbus, and grows superficially on a broad base. Growth is usually slow, but ultimate penetration of the globe is to be expected if the tumor is not removed. The stroma is sometimes pigmented.

Sarcomatous growths are usually pigmented, and develop from pigmented nevi (pigment spots), which consist of polygonal cells imbedded in a groundwork of subconjunctival tissue. The tumor is soft, vascular, sometimes pedunculated, shows little tendency to invade the globe and is generally of slow growth. Epibulbar sarcomas are highly malignant. Microscopically, sarcomas are readily distinguishable from carcinomas by the fact that in the former the surface epithelium passes smoothly over the growth in contradistinction to the latter, where the epithelial cells of the tumor are derived from the surface epithelium. Primary sarcoma of the conjunctiva of the lid, lympho-sarcoma of the semilunar folds and fornix are rare. Amyloid and hyaline degeneration of hypertrophied adenoid tissue of the transition folds occurs in amyloid degeneration of the conjunctiva. Primary carcinoma and sarcoma occur occasionally on the caruncle.

The benign growths are either congenital or acquired. The former are sessile, whereas the latter are polypoid and pedunculated. Of the congenital forms, dermoid tumors are the commonest. Microscopically, they contain various skin elements. They occur on the temporal side of the corneo-scleral junction as flat, dull, white firm masses, often covered with fine hairs. Lipoma occurs in the outer angle between the insertions of the superior and external recti muscles. Small bits of true bone tissue—osteomata—are very rare, and occur in the supero-external portion of the eyeball.

The polypoid form of the acquired benign growths may be accounted for by the constant movement of the eyelids. True polyps, such as are found in the nose, etc., do not occur.

Fibromas are represented by two forms, soft and hard. The former arise in the fornix, are pedunculated and vascular. The latter originate in the palbebral conjunctiva and caruncle, and are poorly supplied with blood vessels.

Granulomas "develop in places where a superficial loss of conjunctival tissue has existed." They are composed of naked masses of free granulation tissue.

The broad, flattened papillæ, which occur on the tarsal conjunctiva and about the limbus in spring catarrh, are histologically closely related to the fibromas.

Papillomas, which are fairly frequent, are distinguished from fibroma by the raspberry-like surface of the former. They occur chiefly in the neighborhood of the caruncle and semilunar fold, and may be either flat or long and pinnated. Occasionally they undergo carcinomatous degeneration.

Adenomas may arise from the tubular gland in the caruncle, Krause's glands, Meibomian glands and the modified sweat glands of Moll. They have a tendency to undergo carcinomatous degeneration.

Hemangiomas consist of twisted capillary vessels occurring as round polypoid growths, and may be congenital or acquired. They occur on the palpebral conjunctiva, in the fornix, on the bulbar conjunctiva and semilunar folds. They may be combined with sarcoma.

Cysts are comparatively rare. Those of the bulbar conjunctiva are dilatations of the lymph vessels, are generally multiple and situated near the cornea. Invagination of the conjunctival epithelium may give rise to retention cysts by closure of the opening. Retention cysts also originate from Henle's gland in the fornix and also from the accessory lachrymal glands in this position. They are larger than the lymphatic cysts of the bulbar conjunctiva.

Cysts due to the presence of cysticercus occur as large yellowish vesicles, through the walls of which the embryo may be seen as a white spot.

Treatment of Severe Syphilitic Diseases of the Eye.—A. Darier (*La Clin. Ophtalm.*, September 25, 1903).—In malignant syphilitic disease of the eye a more intensive mercurial treatment than that ususally employed is furnished by the intravenous injection of solutions of cyanide and biniodide of mercury. The method is of especial value in cases of irido-choroiditis, neuro-retinitis and chorio-retinitis accompanied by opacities in the vitreous. One-half to one centigram of an aqueous solution of cyanide or biniodide of mercury is injected intravenously, increasing the dosage daily until the "reaction limit" for the individual, as indicated by gastro-intestinal symptoms, is reached. The dosage is then diminished and again increased up to full tolerance, reaching finally two to four centigrams daily. If improvement is noted, the injections are given every second or third day until thirty to forty have been given. Subconjunctival injections of cyanide, given during the course of the intravenous injections, will increase the therapeutic effect. Treatment is now suspended for a month, at the end of which the patient is given a number of hypodermic injections of pilocarpin. This therapeutic cycle should be repeated twice or thrice in the course of a year. Visual improvement is greateast during the period following the mercurial course. Negative or poor results are due to stopping the treatment on insufficient cause, such as slight intestinal derangement. The writer regards the employment of potassium iodide as harmful in irido-choroiditis and neuro-retinitis.

BOOK REVIEWS.

THE AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY FOR 1903. A Yearly Digest of Scientific Progress and Authoritative Opinions in all branches of Medicine and Surgery, drawn from journals, monographs and text-books of the leading American and foreign authors and investigators. Arranged, with critical editorial comments, by eminent American specialists, under the editorial charge of GEORGE M. GOULD, A. M., M. D. In two volumes—Volume I., including General Medicine, octavo, 700 pages, fully illustrated; Volume II., General Surgery, octavo, 670 pages, fully illustrated. Philadelphia, New York, London: W. B. Saunders & Co. 1903. Per volume: Cloth, $3.00 net; half morocco, $3.75 net.

The current issue of Saunders' year-book maintains the high standard of excellence which has gained for former issues an enviable reputation among English-speaking practitioners. The editors have endeavored to winnow the grain from the chaff of current literature, and, by judicious critical comment, to further elucidate recent advances in medicine and surgery.

The work comes to us in the same dress as last year—in two volumes, illustrated by many excellent text-cuts and full-page inserts. We hope and believe that this publication will gain an ever-increasing circle of readers.

A TEXT-BOOK UPON THE PATHOGENIC BACTERA. By JOSEPH MCFARLAND. Fourth edition. W. B. Saunders & Co., Philadelphia. 1903.

The new edition of McFarland's book does not differ from the former ones in its general arrangement. The great progress lately made in many branches of the bacteriologic investigation is well reflected in it; in other words, the book has been made up to date. As it deals only with the pathogenic bacteria, it is, of course, mainly meant to serve for the instruction of medical men; it is not a work on bacteriology. Since this is the case, one remark may be made in reference to the selection of certain bacteria dealt with in the work, as, for instance, is shown by a chapter on measles and on scarlet fever. Bacteriology does not know anything about a bacterial nature of these diseases, and it is simply misleading to review without any criticism the so-called discoveries of specific bacteria in these cases. The chapters ought either to be omitted altogether or accompanied with the necessary explanations. The whole chapters, if they are necessary for completeness' sake, should be condensed to a foot-note.

A TEXT-BOOK OF SURGERY FOR STUDENTS AND PRACTITIONERS. By GEORGE EMERSON BREWER, A. M., M. D. Illustrated with 280 engravings in the text and 7 plates in colors and monochrome. Lea Brothers & Co., New York and Philadelphia. 1903.

This is a handsome volume of moderate size which makes its initial bid for the favor of the surgical public. Because there seems to be a need for a work which is something more than a pocket manual, and still is of smaller size than most of the well-known American text-books, the author has undertaken to give the essential facts of modern surgery, as he says, as briefly as is compatible with clearness. Historical matter has been left out entirely, and there is no discussion of matters which belong within the realm of pathology; in fact, the volume is devoted strictly to a consideration of general and special surgery. Something which the student will welcome is that but one method is given for treat-

ment of most of the surgical diseases; formerly his mind has merely been burdened, often without help being given him as to choice of the numerous methods afforded. There has not been much attempt given to quote the various authors from which the material is taken, credit being given in a general way; it being deemed useless to burden the student with a multitude of names. The cuts, while not exactly works of art, are sufficiently clear and numerous to depict all that is required. While the work is hardly large enough for the average general practitioner, to say nothing of the surgeon, it is admirably suited to the requirements of the student.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M. D., assisted by H. R. M. LANDIS, M. D. Volume III. September, 1903. Per volume, $2.50, by express, prepaid. Per annum, in four cloth-bound volumes, $10. Lea Brothers & Co., Philadelphia and New York.

We take pleasure in announcing to our readers that the September volume of this well-known quarterly publication has appeared.

The new volume contains the following departments: Diseases of the Thorax and its Viscera, Including the Heart, Lung and Blood Vessels, by William Ewart, M. D., F. R. C. P.; Dermatology and Syphilis, by William S. Gottheil, M. D.; Diseases of the Nervous System, by William G. Spiller, M. D., and Obstetrics, by Richard C. Norris, M. D.

It is needless to say that this new volume maintains the high standard set by its predecessors.

ORGANIC NERVOUS DISEASES. By M. ALLEN STARR, M. D., Ph. D., LL. D. Illustrated with 275 engravings in the text and 26 plates in colors and monochrome. Lea Brothers & Co., New York and Philadelphia. 1903.

A work on the nervous system, such as this is, has long been looked for by the neurologists. Since Oppenheim's text-book has appeared in a translation, no work has been published which includes the latest results of English and American investigators. This lack Starr's book seems to supply and to supply adequately. The unique and special service of this new text-book consists in the emphasis which is laid upon the surgical side of neurological therapeutics. The anatomy and the neurone conception are treated very briefly, and the latter in a very conservative manner, as is proper just at present, when so much doubt exists as to the correctness of the theory and of the justice of basing a physiology and a pathology upon a theory. For this the author is to be praised, both for his brevity and for his effort to place before his readers only so much of the truth as is actually known. At first sight it appears strange that a considerable chapter is devoted to the neuralgias, which are ordinarily held to be functional in origin. It is a part of the advanced spirit in which this book is written that cognizance is taken of the more recent work on this subject. This work gives ample ground for the assumption of the organic origin of all the more important neuralgias. Considerable space is devoted to the topographical diagnosis of spinal and cerebral processes, and for this the author deserves much credit, for upon a correct localization the success of surgical intervention is dependent. The chapters on locomotor ataxia, to which one naturally turns first, are complete and readable, though offering little that is new. It is certainly an advance however in an American text-book to see an adequate consideration of Redlich's work on the pathology of tabes and of Nageotte's recent studies. The pathology of myelitis is especially well written and presents Marinesco's work in a very clear way. Landry's paralysis is given a separate chapter, though a very brief

one. It is questionable whether it is wise to keep up the tradition of this disease's entity any longer. As might be expected, the chapter on tumors of the brain and cord are very good, and the author's well-known experience is here given welcome space. This book is a notable addition to our text-books and is easily the best that has appeared in America. For the student it is especially to be recommended, and for the neurologist it presents in a brief and in a very attractive way the conclusion of a very wide experience. The plates are chiefly copied, although they are well done; the illustrations are largely from Schmaus and from the Nothnagel monographs. In this lies the chief regret of one who reads Starr's book. The old question at once arises, why is it that with so much clinical experience, no neuro-pathological preparations are shown, which might be as personally identified with the author's work as is the rest of the information which crowds the pages of Starr's Treatise on Organic Nervous Diseases.

A Text-Book of Pathology. By Alfred Stengel. Saunders & Co., Philadelphia, New York and London. Fourth edition. 1903.

The book of Stengel, owing to its close adaptation to the writings of Birch-Hirschfeld and others, has since the appearance of the first edition taken a front rank in our pathologic literature. The fourth edition deserves this place the more, since it contains the latest results of pathologic investigation. The addition of an appendix, giving the main methods for pathologico-histological investigations, seems unnecessary, since it is too short to be used alone for this purpose, and must be supplemented by other sources that in completeness and correctness cannot be outdone.

The Practical Medicine Series of Year-Books. Edited by Gustavus P. Head, M. D. Vol. viii. Materia Medica and Therapeutics, Preventive Medicine, Climatology, Suggestive Therapeutics, Forensic Medicine. 12mo, pp. 326. Chicago: The Year Book Publishers. July, 1903.

The volume is one of a series of ten, issued at monthly intervals, and covering the entire field of medicine and surgery. The series is published primarily for the general practitioner, and the arrangement is intended to be of particular value to him. Thus the chapter of materia medica and therapeutics, which occupies the bulk of the book, consists of abstracts of articles on new drugs and modes of treatment arranged in alphabetical order, whereas the chapter on preventive medicine is arranged under the head of the various diseases discussed. The volume well fulfills its purpose as a book for ready reference.

International Clinics. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene and other topics of interest to students and practitioners. Edited by A. O. J. Kelly, A. M., M. D. Vol. ii, thirteenth series. 1903. 8vo, pp. 311. Philadelphia: J. B. Lippincott Company. 1903.

The volume opens with a symposium of the summer diarrheas of children, by H. W. Conn, Alfred Hand, Jr., A. C. Cotton, Thompson S. Westcott, Matthias Nicholl, Jr., and A. B. Marfan. A very efficient discussion of diseases of the pancreas from the medical side by Eugene L. Opie, and from the surgical side by John B. Deaver and George P. Muller, follows. Professor Bouchard, of Paris, discusses entertainingly the local treatment of rheumatism and tertiary

syphilis. An abstract of this article will be found elsewhere. J. M. Taylor writes concerning the rest treatment, giving the indications and the technique, with all necessary detail. The perusal of his article will be a great aid to all who may occasionally have to make use of this treatment. Articles on medicine, surgery, pediatrics and gynecology follow, and the volume concludes with an interesting and detailed article on the surgery of the ocular muscles, by Professor Landolt, of Paris. There are a number of beautiful plates, among which those illustrating a paper by F. J. Poynton, on endocarditis in childhood, deserve especial praise. The general appearance of the book, its clear, black type, and its opaque, dull-finished paper, are as pleasing as were its predecessors.

Diseases of the Ear. A Text-Book for Practitioners and Students of Medicine. By Edward Bradford Dench, Ph. B., M. D., Professor of Diseases of the Ear in the University and Bellevue Hospital Medical College; Aural Surgeon, New York Eye and Ear Infirmary; Consulting Otologist to St. Luke's Hospital; Consulting Surgeon to the New York Orthopedic Dispensary and Hospital; Fellow of the American Otological Society, of the New York Academy of Medicine, of the New York Otological Society, of the New York County Medical Society, etc. With fifteen plates and one hundred and fifty-eight illustrations in the text. Third edition, revised and enlarged. New York and London: D. Appleton & Company. 1903.

The third edition of this important work maintains the high grade of merit established in the former editions and in many respects exceeds them. In order to keep abreast of the extensive advances made in otology the last few years the author has completely revised a large portion of this work. The chapters on chronic suppurative otitis media and of the various intra-cranial complications of middle ear suppurations have received special consideration. Stress has also been laid on the operative procedures both major and minor. Detailed descriptions of the various methods with their results are given, especially those which have given the author the best results. The work contains many practical illustrations, a number of new plates which are especially good have been added.

In recommending this work we believe we are recommending one of the most practical works on otology.

A Hand-Book of Obstretric Nursing for Nurses, Mothers and Students. By Anna M. Fullerton, M. D. Sixth revised edition. Illustrated. Philadelphia: P. Blakiston's Son & Co. 1903. Cloth, $1.00

This eminently practical little book has just appeared in its sixth edition. The methods of procedure advocated in this book are those observed in the Maternity of the Woman's Hospital in Philadelphia. The subject is presented in so complete and clear a manner that this volume will prove a reliable guide for nurses as well as for students and patients.

Diseases of Women. A Text-Book for the Use of Students and Practitioners of Medicine. By Thomas A. Ashby, M. D., Professor of Diseases of Women, University of Maryland. Williams & Wilkins, Baltimore. Price, $4.50.

This work presents in a concise and practical way all the subjects embraced in a study of the diseases of women, and seems in its scope well adapted to the needs of the student. The large practical experience of the author enables him to treat most of the subjects from a personal point of view. The volume is handsomely illustrated with 233 cuts, and represents a work well fitted for teaching and learning.

A Text-Book of Diseases of Women. By Barton Cooke Hirst, M. D., Professor of Obstetrics in the University of Pennsylvania; Gynecologist to the Howard, the Orthopedic and the Philadelphia Hospitals. Handsome octavo volume of 675 pages, sumptuously illustrated with some 650 mostly original illustrations, many in colors. Philadelphia, New York, London: W. B. Saunders & Co. 1903. Cloth, $5.00 net; sheep or half morocco, $6.00 net.

In marked contrast to the practice of almost all European medical schools a tendency may be observed in this country to separate the teaching of obstetrics from that of gynecology. There is no sharp line of division between these two branches of medicine, and we notice with satisfaction that the European mode of having one teacher for both specialties is gradually gaining ground in our medical colleges. As far as our information goes, this is the second instance in the history of American medical literature where one man wrote both a text-book on obstetrics and one on gynecology.

Hirst's work on obstetrics is certainly one of the most favored text-books and we venture to say that his new text-book of gynecology will enjoy the same popularity. Here is the proof positive that a man can be expert in obstetrical and gynecological work, and teach both in the same excellent manner. We extend our congratulation to Dr. Hirst, to the profession and the publishers upon the production of this creditable work.

Functional Diagnosis of Kidney Disease with Especial Reference to Renal Surgery. Clinical Experimental Investigations. By Dr. Leopold Casper and Dr. Paul Friedrich Richter. Translated by Dr. Robert C. Bryan and Dr. Henry L. Sanford. 12mo, pp. viii – 233. P. Blakiston's Son & Co., Philadelphia. 1903.

The volume is a translation of Casper and Richter's famous work and will doubtless prove of value to those surgeons who, though interested in advanced methods of diagnosis, are unable to read German. After a review of the subject historically and some account of the ordinary methods of diagnosis in renal diseases, the writers report a long series of observations. These concern chiefly the value for diagnosis of the determination of the freezing point of the blood serum and of the urine of the two kidneys collected separately and the phloridgin test in which the amount of sugar secreted by each kidney after the injection of phloridgin is taken as an indicator of renal sufficiency. Their conclusion is that by these methods alone can we arrive at a true notion of the ability of each kidney properly to perform its function. As most of those surgeons who cannot read German are apt also to be unfamiliar with the technique of freezing point determinations and the like, some more detailed information on this point than is contained in the original would have added greatly to the value of the translation. The translators have not failed to fall into the trap laid for the feet of all who do such work: the English of the volume is of a distinctly German cast.

The Practical Medicine Series of Year-Books. Vol. IX. Physiology, Pathology, Bacteriology, Anatomy, Dictionary. Edited by W. A. Evans, Adolph Gehrmann, William Healy. August, 1903. Chicago: Year Book Publishers.

The volume of about 230 pages contains a very well-selected review of the literature covering the subjects mentioned in the title which has appeared during a period of about six months. Although, of course, the selection had to be limited to a small range, it appears that nothing of great importance was

neglected, and especially Gehrmann's report of the work done in the line inaugurated by Ehrlich is very comprehensive. The arrangement of the different subjects is very clever and exceeds by far the methods used in the usual yearbooks and reviews. A very welcome addition to the book is the dictionary of new medical words that was compiled by W. Healy and adapted to the 1901 edition of Borland's Dictionary.

THE MEDICAL EPITOME SERIES. Series edited by V. C. PEDERSEN. Physico and Inorganic Chemistry, ALEXIUS MCGLANNAN. Microscopy and Bacteriology, P. E. ARCHINARD. Medical Jurisprudence, EDWIN WELLES DWIGHT. Lea Brothers & Co., Publishers, Philadelphia. Each volume, cloth, $1.00.

The individual volumes of this series, that "shall embrace the entire realm of medical science and shall give for a minimum price the maximum amount of information," contain each about 200 small pages. Sketches, tables, etc., are interspersed for illustration of the text. As to the latter, it must be admitted that as far as the necessary brevity allows, it is concise and clear, and represents the subject dealt with comparatively well. The drawback of all such booklets is that they do not lead to study, but to a superficial knowledge. For a student preparing for examination they may be a welcome gift, but we do not think that they will satisfy the desire of a practitioner who wants to familiarize himself with a certain branch of medical science.

THE WORK OF THE DIGESTIVE GLANDS. Lectures by J. P. PAWLOW, of St. Petersburg. Translated into English by W. H. THOMPSON. Illustrated. J. B. Lippincott Company, Philadelphia.

This series of lectures, delivered by the author before the Institute for Experimental Medicine in St. Petersburg, present in a condensed form the results of the combined efforts of himself and his laboratory workers during the past ten years. The value of the experimental work of Pawlow is too well known to require special comment here. Suffice it to say that the methods employed in his experiments, and the results obtained thereby, have received universal recognition. The methods employed in obtaining the digestive secretions are superior because of the many difficulties which he has been able to overcome—the secretions may be obtained at all times and in absolutely pure condition; the quantities may be accurately determined under perfectly normal conditions. His labors have not only added much to our knowledge of the physiology of the digestive glands, but has enabled us to draw important conclusions with reference to the treatment—especially the dietetic treatment—of various digestive disorders. To students of physiology and all desiring a comprehensive knowledge of gastro-intestinal functions, the information contained in this volume is indispensable.

A TEXT-BOOK OF OBSTETRICS. By BARTON COOKE HIRST, M. D., Professor of Obstetrics in the University of Pennsylvania. Fourth edition, enlarged and thoroughly revised. Handsome octavo, 900 pages, with 746 illustrations, 39 of them in colors. Philadelphia, New York, London: W. B. Saunders & Company. 1903. Cloth, $5.00 net; sheep or half morocco, $6.00 net.

In revising his work for this edition, the author has spared no pains to make the book reflect the latest knowledge on the subject. Every page has been altered and bettered in some way. More attention has been given than in the previous editions to the diseases of the genital organs associated with or follow-

ing childbirth. Many of the old illustrations have been replaced by better ones, and there have been added besides a number entirely new.

Hirst's Obstetrics is too well known all over the country to need a more detailed review in these pages. It will suffice to announce to the many admirers of this work that a new edition has appeared.

GYNECOLOGY. A Text-book for Students and a Guide for Practitioners. By WILLIAM R. PRYOR, M. D., Professor of Gynecology in the New York Polyclinic Medical School, etc., etc. One hundred and sixty-three illustrations in the text. New York and London: D. Appleton & Co. 1903. $3.50.

As the author states in the preface, this volume is chiefly notable for the absence of bacteriology and minute anatomy. In order to produce a concise text-book only strictly gynecological subjects have been dealt with. It is obvious that in this attempt the writer antagonizes the tendency of modern "specialists," who never tire of emphasizing that a specialist should never keep in touch with general medicine and closely allied specialties. In the reviewer's opinion the borderlands between two specialties offer a wide field for very interesting study. A text-book on internal medicine must devote some space to the discussion of surgical interference in internal diseases, and a text-book on gynecology is incomplete if it does not mention the close relation between diseases of the nervous system and the genitalia. How necessary it is for the gynecologist to possess some information on nervous diseases the author shows when he speaks (page 45) of "hysterical symptoms of peritonitis."

Experience has shown that it is impossible to instruct the student in the details of the histo-pathology of the various organs before he has acquired a certain amount of knowledge in the pathology of these organs. Again, it was found impossible to convey to the student a proper understanding of the pathology without reference to the histo-pathology of the diseased organ. The logical outcome of this experience is the practice of the modern teacher to include in his lectures the histo-pathology of the diseases of his specialty. If Pryor tries to break with this custom, such an attempt can hardly be qualified progressive. There are to be found, however, in this book, a few, apparently inevitable, references to histology and pathology, and among them we detect the following: "The endometrium not being a mucous membrane, but part of the great lymphoid system—" (page 23); Influence of gout upon the endometrium (page 23); In dysmenorrhea "the epithelium is literally forced off the surface of the endometrium" (page 75); A pessary should never be employed where "the displacement is due to endometritis" (page 84); Cystitis is caused in about 60 per cent. of the cases "by a bacillus of the colon group, Bacillus pyogenes, or Bacillus coli communis, or Bacillus aerogenes, as called by different authors" (page 122); Cysts of the Corpus Luteum. "Occasionally *corpus luteum will not rupture*" (page 146).

The author states in the preface that it seems useless to describe very rare diseases. We agree with him. In a text-book on gynecology, however, we should like to see allusion to the following conditions, none of which are even mentioned: Perimetritis, Parametritis, Shortening of the Parametrium due to inflammation or injury, Lateral Displacement of the Uterus, Abnormalities of the Sacro-uterine Ligaments, Parametritis Posterior, etc., etc.

There is some peculiarity in the arrangement of certain topics—thus, *e. g.*, vaginitis is dealt with in the chapter "Inflammations," senile vaginitis in "Diseases of Vagina," while vaginism finds its place under the head "Diseases of the Cervix."

One more quotation from the preface: "A text-book on diseases peculiar to women should describe those diseases and their treatment as fully as possi-

ble, and such a book I have tried to write." The author devotes, on page 181, six and one-half lines to the description of the treatment of cancer of the cervix, while on page 184 four and one-half lines suffice to outline the treatment of cancer of the body of the uterus.

Just one-half of the volume is devoted to a description of gynecological operations, and this half will, despite the shortcomings of the other half, guarantee for this book a conspicuous place among modern gynecological works. The writer is well known here and abroad as a gynecologieal surgeon, and several of the most useful of gynecological operations bear his name. In this country Pryor must be considered the most ardent advocate of the vaginal route in gynecological surgery, and, therefore, this new book offers interesting reading to the gynecological specialists. In order to become useful to the student or the general practitioner the first half of the volume will have to be thoroughly remodeled.

THE ROENTGEN RAYS IN THERAPEUTICS AND DIAGNOSIS. By WILLIAM ALLEN PUSEY, A. M., M. D., and EUGENE WILSON CALDWELL, B. S. W. B. Saunders & Co. 1903.

Since the x-rays have procured for themselves such a place in medicine and surgery there has been a crying need for such a book as this one. Radiotherapy is now practiced by almost every physician and surgeon, who obtain their knowledge through journal articles or practical personal observation. Therefore such a work as the one before us should be warmly received by the profession, as it is written by men who have a thorough knowledge of the machine and its application.

The first part of the book is written by Caldwell, who has thoroughly and scientifically discussed the mechanical part of the subject, describing the different apparatuses which are used to produce the x-rays.

The second part is by Pusey, of Chicago, who is, no doubt, the pioneer in this country in the therapeutic application of the x-rays. It is to him that we are indebted for the first enthusiastic work in this country in the treatment of epithelioma, lupus, acne and other diseases of the skin by this method. Therefore anything emenating from him in this line is of the greatest value. It must be remarked and commended of the writings of Dr. Pusey, that all his reports have showed a spirit of conservatism which is remarkable when one remembers the brilliant results he has obtained. His present work breathes the same careful and painstaking observations; not a word or sentence to lead the reader to a too great and rash enthusiasm. The mass of clinical data brought forward in the book should be convincing to the most skeptical. The illustrations are excellent, and as the camera speaks louder than words, the photographs are of great value in the report of these therapeutic results.

The book is most interesting and charmingly written. It seems to the reviewer that this is a most excellent presentation of the present status of the x-ray topic and should be a classic to all those who use the rays.

DAS SEXUELLE LEBEN DER NATURVOELKER. Verfasst von DR. JOSEF MUELLER. Leipzig: Th. Grieben's Verlag. (L. Fernau.) 1902.

Here for the first time an attempt has been made to write an exhaustive history of the sexual ideas and sexual life of humanity. The first part of the book deals with marriage. Discussing in detail the various theories on promiscuity, polyandry and polygamy, the author demonstrates the gradual development of these forms of married life into monogamy. The second part of the volume is devoted to a consideration of the various forms of sexual restrictions

as exerted before and after marriage. Modesty in the child, marital asceticism and celibacy are discussed.

The writer's conclusions are clear and convincing. They are based upon the critical study of an immense amount of references collected with admirable assiduity from the literature of the whole world.

NURSES' GUIDE TO SURGICAL BANDAGING AND DRESSINGS. By WM. JOHNSON SMITH, F. R. C. S., Greenwich. Philadelphia: J. B. Lippincott Company. 1903. Price 75 cents.

This little volume will be found a ready, concise and complete pocket reference book for the junior students and nurses in surgical wards. The instructions for bandaging are given in clear language and the explanations elucidated by a great number of schematic illustrations.

A COMPEND OF DISEASES OF THE SKIN. By JAY F. SCHAMBERG, A. B., M. D. P. Blakiston's Sons & Co., Philadelphia: 1903.

This is the third edition of this little book. It is revised and enlarged. There seems to be a demand for "Quiz-Compends," and we suppose they fill a space in the requisites of the students. This one of Dr. Schamberg is an excellent little work. It is carefully edited and brings forward the salient points in diseases of the skin.

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